









**View to the Northwest**

# APPENDIX 5A

## BACKGROUND INFORMATION DOCUMENT





## BACKGROUND INFORMATION DOCUMENT

PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 126IR, MPUMALANGA

THIS BACKGROUND INFORMATION DOCUMENT SERVES TO INFORM THE PUBLIC OF THE APPLICATION LODGED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT 107 OF 1998 (NEMA) AS AMENDED.

<b>APPLICANT:</b> Nomvula Mpumelelo (Pty) Ltd. Mr Ewert Snyman Portion 2 of the Farm Uitmalkaar No 126 Kinross 2270 Cell: 084 511 5811 E-Mail: <a href="mailto:e.snyman@makwenzeke.com">e.snyman@makwenzeke.com</a>	<b>ENVIRONMENTAL CONSULTANT:</b> REC Services (Pty) Ltd. Mr. Rowan van Tonder/ Mr Pieter van der Merwe P.O. Box 40541 Moreleta Park 0044 Tel: (012) 997 4742 Fax: (012) 997 0415 E-mail: <a href="mailto:rowan@recservices.co.za">rowan@recservices.co.za</a>
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6 JULY 2022

## 1. PURPOSE OF THIS BACKGROUND INFORMATION DOCUMENT

The purpose of this document is to:

- Notify the identified Interested and Affected Parties (I&APs) of the Environmental Impact Assessment (EIA) Regulations in accordance with stipulations made in Government Notice R. 326 of 7 April 2017 published in terms of chapter 6 of the National Environmental Management Act (Act No. 107 of 1998) as amended.
- Present stakeholders with an overview of the perceived environmental, biophysical and social impacts of the proposed development.
- Provide I&APs with a Locality Map (Appendix 1) indicating the proposed development.
- Obtain issues and concerns from the I&APs regarding the environmental assessment process and proposed activity, which will be addressed for the planning, construction and operational phases of the proposed development.

## 2. INTRODUCTION AND STATEMENT OF INDEPENDENCE

### 2.1 INTRODUCTION

REC Services (Pty) Ltd. (REC) was appointed by Mr. Ewert Snyman of Nomvula Mpumelelo (Pty) Ltd., for the Environmental Impact Assessment and application process in terms of the National Environmental Management Act (Act 107 of 1998), pertaining to proposed establishment of new land for crop production and some associated infrastructure such as a workshop and crop production tunnels.

The public participation process aims to provide an opportunity for I&APs to comment on the proposed development, such that relevant information exchanges will enable the EIA process to focus the study on reasonable and relevant issues, predominantly relating to environmental impacts that the proposed development may have. The Environmental Impact Assessment Report to be compiled by REC will focus on the possible issues and impacts associated with the proposed development, and where negative impacts are identified, recommendations will be made to mitigate such impacts.

REC and its environmental assessment practitioners have no connection with the applicant. REC is not a subsidiary, legally or financially of the applicant. Remuneration for services pertaining to this assessment and application is not linked to approval by decision-making authorities responsible for authorizing the proposed development. REC and its environmental assessment practitioners have no interest in secondary or

downstream developments as a result of the authorisation of the proposed development.

### 3. KEY LEGISLATION APPLICABLE TO THIS NOTICE

#### 3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT 108 OF 1998 AS AMENDED

Listed activity triggered in the 2017 NEMA regulations:

R. 325 (984) of 7 April 2017, as amended: Listing Notice 2- Full EIA Activities	
Activity No	Listed Activity Description:
15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

#### 3.2 NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

Notice is also given of a Phase 1 Heritage Impact Assessment to take place in terms of The National Heritage Resources Act (Act 25 of 1999), for Nomvula Mpumelelo (Pty) Ltd.

- Section 38 (1) (c): any development or other activity which will change the character of a site-
  - exceeding 5 000m<sup>2</sup> in extent;

#### 3.3 NATIONAL WATER ACT (ACT 36 OF 1998)

Notice is also herewith given in terms of section 21 of the National Water Act, 1998 (Act 36 of 1998) with regards to the application for a Water Use License and/or Registration of the water use activities associated with the proposed development, which includes:

- Section 21(a): taking water from a water resource;
- Section 21(b): storing water;
- Section 21(c): impeding or diverting the flow of water in a watercourse;
- Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource; and
- Section 21(i): altering the bed, banks course or characteristics of a watercourse.



## 4. PROJECT INFORMATION

### 4.1 PROPOSED ACTIVITY

The proposed establishment of new land for crop production and some associated infrastructure such as a workshop and crop production tunnels, on the Rem. of Por. 2 OF the farm Uitmalkaar 1261R, Mpumalanga Province.

### 4.2 BASIC PROJECT DESCRIPTION

It is determined that the project will cover more than 20 ha of land which will be disturbed by the clearing of indigenous vegetation for the establishment of vegetable production in a tunnel and on open land.

### 4.3 LOCALITY

The turn-off to the farm, from the R29, is about 7.2km from the R29 and R547 interchange at Kinross. GPS coordinates of site:  $-26.383846^{\circ}$ ,  $29.022789^{\circ}$ .

Please refer to the Google Earth image below. The locality plan is presented in Appendix 1 of this notice.



#### 4.4 CONSIDERATION OF ALTERNATIVE SITES

Alternatives can be considered at this stage, i.e. Activity and Design (layout).

### 5. ENVIRONMENTAL STUDY PROCESS

The Environmental Impact Assessment process consists of two main components, namely (i) the technical/biophysical process and (ii) the public participation process.

- The technical process includes, but is not limited to, the following aspects:
  - Terrain investigations;
  - Specialist Studies;
  - The identification and assessment of biophysical elements within the study area;
  - Compilation of a Scoping and Environmental Impact Assessment Report with Environmental Management Programme.
  
- The public participation process includes:
  - Compilation of a database of stakeholders and Interested and Affected Parties;
  - Legal notices of the environmental process (press advertisement and on-site);
  - Dissemination of information to stakeholders and I&APs;
  - If needed, conduct an open day(s) or meetings, where Interested and Affected Parties can view the lay-out plan and be informed of the functioning of the treatment process in basic terms;
  - Identification of environmental, as well as social issues and concerns, as raised by I&APs or other relevant stakeholders, and
  - Addressing all concerns raised by I&APs.

The public participation process is conducted in parallel with the Environmental Impact Assessment process (technical/biophysical process). The public participation process does not aim to promote agreement amongst I&APs or quell possible opposition against a project. The process is made open and transparent to all those involved. Additionally, it is considered important to involve I&APs as early in the Environmental Impact Assessment process as possible, to ensure informed decision-making and effective participation throughout the study.

The Environmental Impact Assessment Process contains the following steps (Full EIA process):

# THE FUL EIA PROCESS AND TIME FRAMES ACCORDING TO THE 2014 NEMA REGULATIONS AS AMENDED

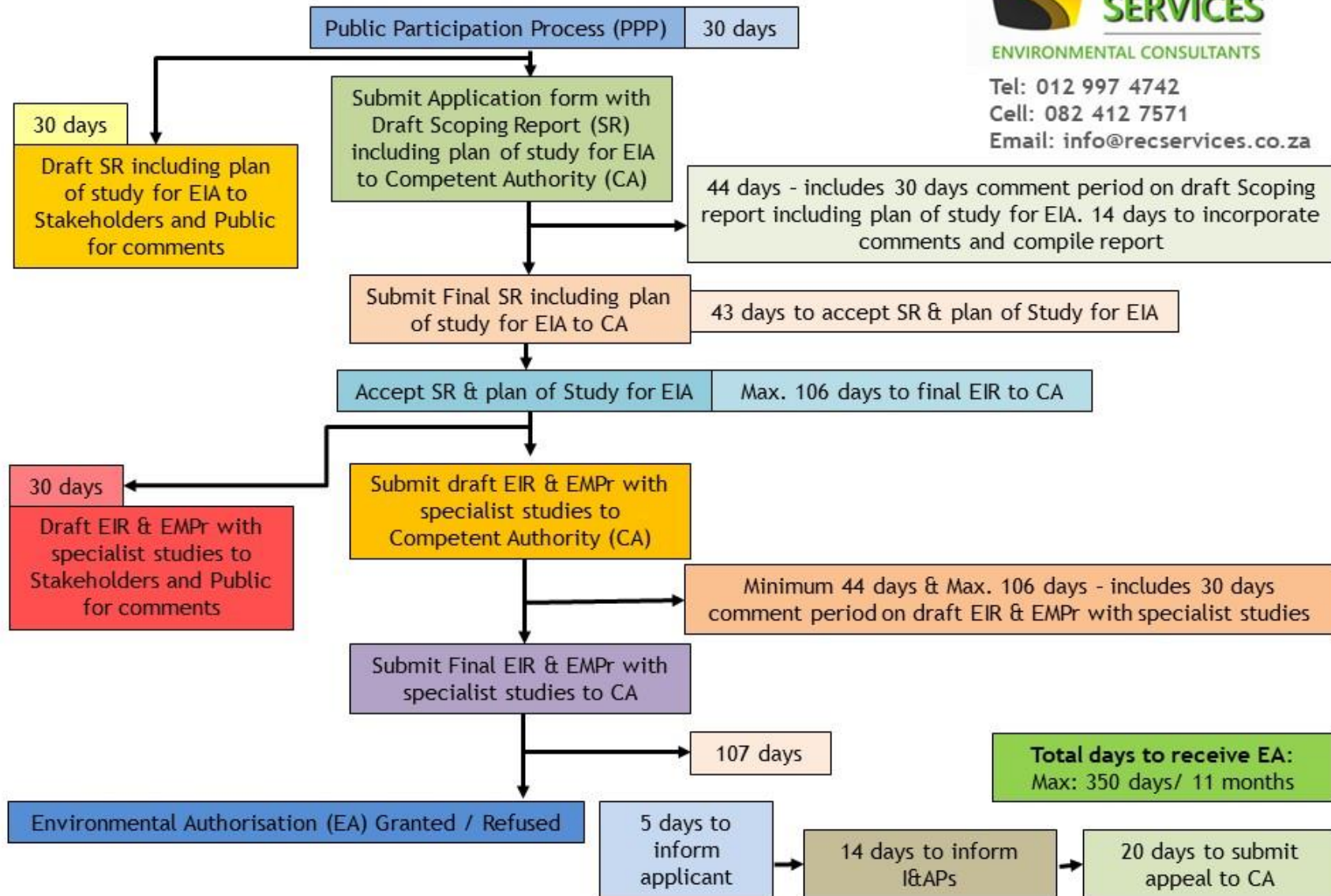


ENVIRONMENTAL CONSULTANTS

Tel: 012 997 4742

Cell: 082 412 7571

Email: info@recservices.co.za



## 6. PRELIMINARY ENVIRONMENTAL RELATED ISSUES IDENTIFIED

The following steps are identified on a preliminary basis:

- Dust generation from construction during construction phase.
- Possible hazardous (Diesel, oil) fluids being spilled during construction phase.
- Removal of vegetation (natural and alien).
- Traffic Safety during construction phase.

## 7. COMMENTS /OBJECTIONS

Kindly submit the attached Registration and Comment Sheet, to register as an Interested and Affected Party, with possible issues and concerns relating to the proposed development, as well as any additional I&APs that you would like to be involved in the process, to the Environmental Consultant (refer to the contact details given above).

The Registration and Comment Sheet should reach us no later than 30 days (excluding public holidays) from the date of this BID.

We thank you for your interest and for taking the time to read through this document.

REGISTRATION AND COMMENT SHEET:

PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED  
INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON  
THE REM. OF POR. 2 OF THE FARM UITMALKAAR 126IR, MPUMALANGA  
PROVINCE.

Please complete and return as soon as possible, but no later than 6 August 2022 to:

Mr. Rowan van Tonder, PO Box 40541, Moreleta Park, 0044

Tel: (012) 997 4742 Fax: (012) 997 0415 e-mail:

rowan@recservices.co.za

---

Title\_\_\_\_\_Initials\_\_\_\_\_Surname\_\_\_\_\_

Organisation/Firm/Position/Nature of Involvement in the project e.g. property  
owner:

\_\_\_\_\_

Street / Physical Address:

\_\_\_\_\_

Postal address:

\_\_\_\_\_

Postal Code: \_\_\_\_\_

Telephone Work: \_\_\_\_\_ Telephone Home: \_\_\_\_\_

Cell phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

COMMENTS:

It would be useful if you could answer the questions below but please feel free to  
provide any comments you would like to raise. Please continue on additional paper  
if required.

1. What are the primary concerns faced by you/your community or our organization  
with regards to the proposed development?

\_\_\_\_\_

\_\_\_\_\_





Appendix 1: Locality Maps


NEXT PAGE

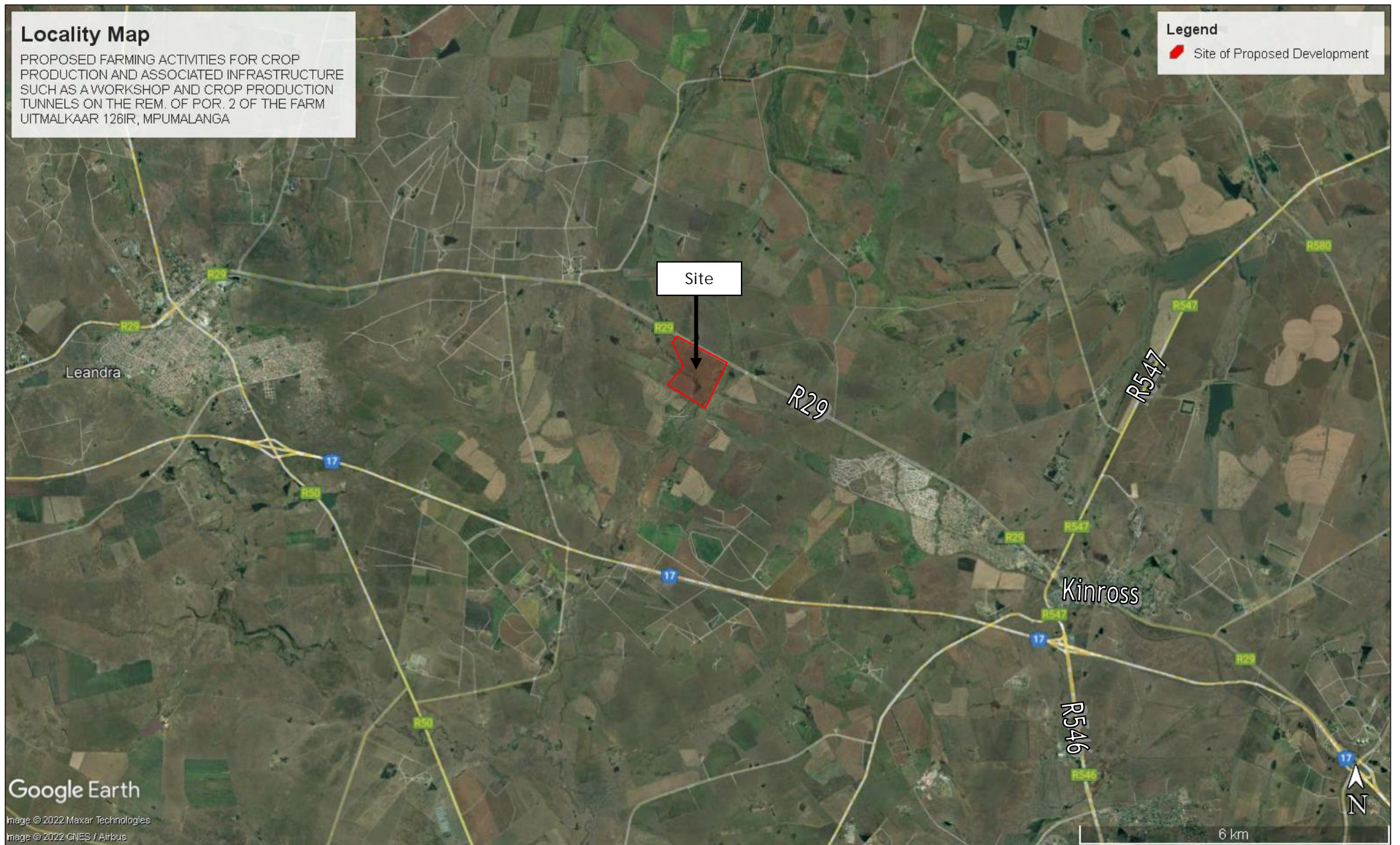


## Locality Map

PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 126IR, MPUMALANGA

## Legend

 Site of Proposed Development



Google Earth

Image © 2022 Maxar Technologies  
Image © 2022 CNES / Airbus

## APPENDIX 5B

### ACKNOWLEDGEMENT OF RECEIPT OF THE BACKGROUND INFORMATION DOCUMENT



## Rowan van Tonder

---

**From:** Rowan van Tonder <rowan@recservices.co.za>  
**Sent:** Wednesday, July 6, 2022 2:54 PM  
**To:** 'coen.meyer@vodamail.co.za'; 'turacotrusses@gmail.com'; 'hans@jenny.co.za'; 'hans@jenny.co.za'; 'vosstoff@mweb.co.za'  
**Subject:** Uitmalkaar: Background Information Document (BID) - Notification  
**Attachments:** BID Uitmalkaar Full EIA.doc

To Whom It May Concern (Adjacent property owners),

REC Services (Pty) Ltd. was recently appointed by Nomvula Mpumelelo (Pty) Ltd. to conduct the full EIA process for the PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA

The public participation exercise commenced on 6 July 2022.

We have also attach the BID for your information. Please read through it.

Kind Regards/Groete,



### ROWAN VAN TONDER

Environmental Assessment Practitioner

SACNASP(Pri.Sci.Nat): 119204 | B. Sc. Environmental Science | B. Sc. (Hons) Physical Geography | M.Sc. Botany

t: 0129974742 f: 0866190994 c: 0828794218

P.O. Box 40541, Moreleta Park, 0044

2<sup>nd</sup> Floor, Rubenstein Office Park,

566 Rubenstein Drive, Moreleta Park, 0181

† [www.recservices.co.za](http://www.recservices.co.za)

## Rowan van Tonder

---

**From:** Rowan van Tonder <rowan@recservices.co.za>  
**Sent:** Wednesday, July 6, 2022 3:43 PM  
**To:** 'bmoduka@mpg.gov.za'; 'khevas@dws.gov.za'; 'GumaF@dwa.gov.za'  
**Subject:** Uitmalkaar: Background Information Document (BID) - Notification  
**Attachments:** BID Uitmalkaar Full EIA.doc

To Whom It May Concern (DWS & MP PHRA),

REC Services (Pty) Ltd. was recently appointed by Nomvula Mpumelelo (Pty) Ltd. to conduct the full EIA process for the PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA

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Kind Regards/Groete,



### ROWAN VAN TONDER

Environmental Assessment Practitioner  
SACNASP(Pri.Sci.Nat): 119204 | B. Sc. Environmental Science | B. Sc. (Hons) Physical Geography | M.Sc. Botany

t: 0129974742 f: 0866190994 c: 0828794218  
P.O. Box 40541, Moreleta Park, 0044  
2<sup>nd</sup> Floor, Rubenstein Office Park,  
566 Rubenstein Drive, Moreleta Park, 0181  
† [www.recservices.co.za](http://www.recservices.co.za)

## Rowan van Tonder

---

**From:** Rowan van Tonder <rowan@recservices.co.za>  
**Sent:** Wednesday, July 6, 2022 3:37 PM  
**To:** 'thokozile.z@govanmbeki.gov.za'; 'office.mayor@govanmbeki.gov.za';  
'office.speaker@govanmbeki.gov.za'  
**Subject:** Uitmalkaar: Background Information Document (BID) - Notification  
**Attachments:** BID Uitmalkaar Full EIA.doc

To Whom It May Concern (Local Municipality),

REC Services (Pty) Ltd. was recently appointed by Nomvula Mpumelelo (Pty) Ltd. to conduct the full EIA process for the PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA

The public participation exercise commenced on 6 July 2022.

We have also attach the BID for your information. Please read through it.

Kind Regards/Groete,



### ROWAN VAN TONDER

Environmental Assessment Practitioner

SACNASP(Pri.Sci.Nat): 119204 | B. Sc. Environmental Science | B. Sc. (Hons) Physical Geography | M.Sc. Botany

t: 0129974742 f: 0866190994 c: 0828794218

P.O. Box 40541, Moreleta Park, 0044

2<sup>nd</sup> Floor, Rubenstein Office Park,

566 Rubenstein Drive, Moreleta Park, 0181

† [www.recservices.co.za](http://www.recservices.co.za)

## Rowan van Tonder

---

**From:** Rowan van Tonder <rowan@recservices.co.za>  
**Sent:** Wednesday, July 6, 2022 3:39 PM  
**To:** 'cllrtmorajane@govanmbeki.gov.za'  
**Subject:** Uitmalkaar: Background Information Document (BID) - Notification  
**Attachments:** BID Uitmalkaar Full EIA.doc

To Whom It May Concern (Ward 2: Cllr Joseph M Maseko: cell.: 0726783369),

REC Services (Pty) Ltd. was recently appointed by Nomvula Mpumelelo (Pty) Ltd. to conduct the full EIA process for the PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA

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Kind Regards/Groete,



### ROWAN VAN TONDER

Environmental Assessment Practitioner  
SACNASP(Pri.Sci.Nat): 119204 | B. Sc. Environmental Science | B. Sc. (Hons) Physical Geography | M.Sc. Botany

t: 0129974742 f: 0866190994 c: 0828794218  
P.O. Box 40541, Moreleta Park, 0044  
2<sup>nd</sup> Floor, Rubenstein Office Park,  
566 Rubenstein Drive, Moreleta Park, 0181  
† [www.recservices.co.za](http://www.recservices.co.za)

## APPENDIX 5C

COPY OF THE PRESS ADVERTISEMENT



0855 SALES / MARKETING

**BU CO**  
HARDWARE BUILDUPPE  
LET'S BUILD TOGETHER

## SALES REPRESENTATIVE INTERNAL

The main purpose of this job is to ensure fast, efficient processing and fulfilling of customer order, being ever mindful of company standards of appearance and behavior.

**KEY PERFORMANCE AREAS:**

- Listening to customer requirements and offering advise/alternatives
- Dealing with customer queries accurately and timeously
- Manage sales and administrative functions
- Taking telephone enquiries and orders
- Assisting customers on the shop floor
- To uphold and promote the company values and culture

**COMPETENCY REQUIREMENTS:**

- Delivering results and meeting customer expectations
- Following instructions and procedures
- Planning and organizing skills
- Resilience/Tenacity/Persistence

**Minimum qualification and experience:**

- Grade 12
- 3 years' retail sales experience in building/hardware environment

Applications without the relevant qualifications and experience will not be considered.

Kindly forward your CV to [nvanwyk@buco.co.za](mailto:nvanwyk@buco.co.za)

Closing date for applications : 9 July 2022

Have a vacancy to fill?



Contact us today to place your advert

010-971-3301  
071-634-7728

logang@caxton.co.za

0875 TRADE

**POSITION AVAILABLE AT THASASA**

**1 x Auto Electrician with a minimum of 3 years' experience**

**APPLICATION**

Please email your CV on / before 15 July 2022 to [recruitment@thasasa.co.za](mailto:recruitment@thasasa.co.za)  
Note: Thasasa will only prioritize candidates with relevant qualification and experience.

---

**POSITION AVAILABLE AT THASASA**

**1 x Diesel Mechanic with a minimum of 3 years' experience**

**APPLICATION**

Please email your CV on / before 15 July 2022 to [recruitment@thasasa.co.za](mailto:recruitment@thasasa.co.za)  
Note: Thasasa will only prioritize candidates with relevant qualification and experience.

**Underground Support Solutions (Pty) Ltd.**

**Millwright Artisan**

**USS currently has vacancies for Millwright artisans at Sasol Mining projects in Secunda, Mpumalanga.**

Interested parties with the listed qualifications and experience below, may submit their CV and supporting documentation to:

[info@undergroundss.co.za](mailto:info@undergroundss.co.za)

Please use relevant reference number in subject line.

**Closing date: 8 July 2022 (Ref: 220627MA)**

- Red Seal Trade Certificate (Millwright Artisan), with at least 3 years experience.
- Additional, Separate – Comp. A and Gas testing certificates.
- Comprehensive current CV with traceable references and proven track record with experience in underground maintenance of electric/hydraulic machines.
- Proof of previous or current valid medical surveillance.

Short listed candidates will be invited for interviews.

Should you not be contacted by **11 July 2022**, please consider your application as unsuccessful.

Place your legal notice in your local newspaper.

017-634-7728  
010-971-3301  
[logang@caxton.co.za](mailto:logang@caxton.co.za)

0900 Legals

0950 LEGAL NOTICES

**INVITATION FOR PUBLIC COMMENTS IN APPLYING FOR A LIQUOR LICENSE IN TERMS OF SECTION 35(2) (A) OF THE MPUMALANGA LIQUOR LICENSING ACT, 2006**

**A. PERSONAL DETAILS I EUGENE HARTMAN.** ID Number: 900313 5083 08 2. an adult male hereby invites written public comments concerning my application for a liquor license to the Mpumalanga Liquor Authority to trade under the name **HARTLAND**. I make this application on behalf of the juristic person: **HARTMANS INVESTMENTS (PTY) LTD**

**B. LICENSE TYPE**  
(a) The retail sale of liquor for consumption on the premises where the liquor is sold

**C. BUSINESS PREMISES**  
Physical address: **76 DU PLOOY STREET CBD BETHAL MPUMALANGA 2310**  
Postal address: **PRIVATE BAG X 1838 MIDDELBURG 1050** Being an address in the Republic of South Africa and within the borders of Mpumalanga Province.

**D. ADDRESSES TO WHICH COMMENTS MUST BE SUBMITTED**  
Comments should be made in writing and be addressed to the municipality concerned and a copy to the applicant, to reach the said addresses within thirty (30) days of this publication.

**Municipality's address:**  
Physical address: **GOVAN MBEKI LOCAL MUNICIPALITY HORWOOD STREET CBD SECUNDA MPUMALANGA 2302** Postal address: **P.O. BOX X1017 SECUNDA MPUMALANGA 2302**

**Applicant's address:**  
Physical address: **34 LOUWIS CREEK STREET AERORAND MIDDELBURG MPUMALANGA 1050** Postal address: **SUITE MW 465 PRIVATE BAG X 1838 MIDDELBURG 1050**

**NOTICE FOR AN ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

**PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA.**

Notice is hereby given in terms of Regulation 41 of the Regulations published in Government Notice 326 of 7 April 2017 - Chapter 6 of the National Environmental Management Act, 1998 (Act no. 107 of 1998), as amended, for an application submitted for the following activity:

**PROPOSED ACTIVITY:**  
NEMA: GN No. R 325 of 7 April 2017 (Listing 2): Activity No.: 15. A Phase 1 Heritage Impact Assessment to take place in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999), for Nomvula Mpumelelo (Pty) Ltd. Section 38(1) (c): exceeding 5000m<sup>2</sup> in extent. The National Water Act, 1998 (Act 36 of 1998) with regards to the application for a General Authorisation and /or Registration of the water use activities associated

with the proposed development, which includes: (a)(b)(c)(g)(i).

**PROJECT DESCRIPTION:**  
It is determined that the project will cover more than 20 ha of land which will be disturbed by the clearing of indigenous vegetation for the establishment of vegetable production in a tunnel and on open land.

**PROJECT LOCATION:** The turn-off to the farm, from the R29, is about 7.2km from the R29 and R547 interchange at Kinross. GPS coordinates of site: - 26.383846°, 29.022789°.

**APPLICANT:** Nomvula Mpumelelo (Pty) Ltd. ENVIRONMENTAL CONSULTANT: REC Services (Pty) Ltd. PO Box 40541, Moreleta Park, 0044 Tel: (012) 997 4742 Fax: (012) 997 0415 Email: [rowan@recservices.co.za](mailto:rowan@recservices.co.za) Contact Person (s): Rowan van Tonder / Pieter van der Merwe In order to register as an interested and/or affected party, or to obtain more information on the proposed development, please submit your name, contact details and interest in the matter within 30 days of the date of this press advertisement. Placement of the site notice: 6 July 2022 Handing out of background information documents: 6 July 2022



Registration is now open for the spring netball season in the men's, women's and mixed league teams as well as the kids league from ages 6 to 9 years and ages 10 to 13 years. Photo: Supplied

# League finals are underway

Kerry Bird

**SECUNDA** - With the winter action sports season coming to an end, the men, women and mixed league cricket teams will be playing in the quarter-finals from July 4 to July 9.

The semi-finals will then take place from July 11 to July 16 and will be followed by the finals that will happen on Saturday, July 23.

The games will begin at 14:00 at Action Sport Secunda, on the South Bank next to Kamp Oase at Lake Umuzi.

The players who made hat tricks are Jaco van Rooyen, Jaco Bekker, Tiaan Burger, Melissa McGregor, Neil du Toit, Barend Bezuidenhout, Zeeshaan Ebrahim, Zian Kriel (kids league), Nico Gouws, Wimpie Jerling, Theunis Snyders, Calum Viljoen, Chopper Nagel, Anthea Rossouw, Christiaan Wessels, Yasheen Omaram, JW Smith, Arno van der Walt and Ruan Janse van Rensburg.

Registration is now open for the spring season in the men's, women's and mixed league teams.

Children's leagues are open from ages 6 to 9 years and for the ages 10 to 13 years.

There is also cricket fun for the kids during the holidays on Wednesday, July 6.

Children can be booked in for a two-hour time slot for a game of cricket and dodgeball. They will also receive a hot dog and juice.

16 children are needed per time slot which is at 10:00, 12:00 and 14:00.

To register your child, WhatsApp 082 851 1797 with your child's name.

The senior netball quarter-finals take place from June 27 until July 2, with the semi-finals being held from July 4 to July 9.

The six-a-side will be played from July 11 to July 29.

Finals will take place on July 30, with games starting at 14:00.

Registration is also now open for the spring netball season in the men's, women's and mixed league teams as well as the kiddies league from ages 6 to 9 years and ages 10 to 13 years.

The hockey quarter-finals will take place from July 11 to July 15 and the semi-finals from July 18 to July 22.

Finals will be on Friday, July 29.

Registration is now open for the spring season hockey in the men's, women's and mixed league teams.

For more information contact Mariska Lubbe on 082 851 1797 or Bianca Lubbe on 071 427 7404.



Registration is now open for the spring season cricket mixed league. Photo: Supplied



Registration is now open for the spring season cricket men's league. Photo: Supplied

**Contact us:**  
The Junction Centre,  
Shop no. 6, Secunda  
Lourens Muller Street  
Tel: 017 634 7728  
Fax: 086 540 1756

<b>Group Branch Manager</b>
Linda Pretorius <a href="mailto:lindap@caxton.co.za">lindap@caxton.co.za</a> 20 Sydney Road, Ravenswood, Boksburg
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<b>Journalists</b>
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Kerry Bird <a href="mailto:kerryb@caxton.co.za">kerryb@caxton.co.za</a>
Mphikeleli Masangu <a href="mailto:mphikelelim@caxton.co.za">mphikelelim@caxton.co.za</a>
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<b>Sales Consultants</b>
Lizelle Grobler <a href="mailto:lizelleg@caxton.co.za">lizelleg@caxton.co.za</a>
Petro Maulicino <a href="mailto:petrom@caxton.co.za">petrom@caxton.co.za</a>
<b>Production Manager</b>
Taybah Shaik 010 971 3375 <a href="mailto:taybahb@caxton.co.za">taybahb@caxton.co.za</a>
<b>Classified Manager</b>
Logan Govender 010 971 3357 <a href="mailto:logang@caxton.co.za">logang@caxton.co.za</a>
<b>Classifieds Designer</b>
Sanet McFadden <a href="mailto:sanetm@caxton.co.za">sanetm@caxton.co.za</a>

**Code of Conduct**  
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## APPENDIX 5D

COPY OF THE SITE NOTICE AND SUPPORTING PHOTOGRAPHS



# NOTICE: ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

**PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 1261R, MPUMALANGA.**

Notice is hereby given in terms of Regulation 41 of the Regulations published in Government Notice 326 of 7 April 2017 - Chapter 6 of the National Environmental Management Act, 1998 (Act no. 107 of 1998), as amended, for an application submitted for the following activity:

- NEMA: GN No. R 325 of 7 April 2017 (Listing 2): Activity No.: 15.
- A Phase 1 Heritage Impact Assessment to take place in terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999), for Nomvula Mpumelelo (Pty) Ltd. Section 38(1)(c): exceeding 5000m<sup>2</sup> in extent.
- The National Water Act, 1998 (Act 36 of 1998) with regards to the application for a General Authorisation and/or Registration of the water use activities associated with the proposed development, which includes: (a)(b)(c)(g)(i).

## PROJECT DESCRIPTION:

It is determined that the project will cover more than 20 ha of land which will be disturbed by the clearing of indigenous vegetation for the establishment of vegetable production in a tunnel and on open land.

## PROJECT LOCATION:

The turn-off to the farm, from the R29, is about 7.2km from the R29 and R547 interchange at Kinross. GPS coordinates of site: -26.383846°, 29.022789°.



## APPLICANT:

Nomvula Mpumelelo (Pty) Ltd.

## ENVIRONMENTAL CONSULTANT:

REC Services (Pty) Ltd.

PO Box 40541, Moreleta Park, 0044

Tel: (012) 997 4742

Fax: (012) 997 0415

Email: rowan@recservices.co.za

Contact Person (s): Rowan van Tonder / Pieter van der Merwe



In order to register as an interested and/or affected party, or to obtain more information on the proposed development, please submit your name, contact details and interest in the matter within 30 days of the date of this notice: 6 July 2022

Proof of Site Notice



## APPENDIX 5E

COMMENT AND REGISTRATION SHEETS RECEIVED FROM I&AP'S





agriculture, rural development,  
land & environmental affairs

MPUMALANGA PROVINCE  
REPUBLIC OF SOUTH AFRICA

13 De Jager Street, Ermelo, 2350, Mpumalanga Province

Private Bag X 2777, Ermelo, 2350

Tel: +27 (17) 8114830, Fax: +27 (17) 8113944

LitikoLetekulima, Kutfutukiswa  
KwetindzawoTasemakhaya, Temhlaba  
Netesimondzawo

Departement van Landbou,  
LandelikeOntwikkeling,  
GrondenOngewing Sake

GERT SIBANDE DISTRICT

umNyangoweZelimo  
UkuThuthukiswakweeNdawozemaKhaya,  
iNarhaneNdabazeBhoduluko

Enquiries : Okwethu-kuhle Fakude/ Whitney Tshimbana  
Telephone : (017) 811 4830  
Reference : 1/3/1/16/1 G-263  
NEAS No. : MPP/EIA/0001095/2022

Mr. Rowan Van Tonder  
Rec services (Pty) Ltd  
P.O Box 40541  
Moreleta  
0044

Telephone: 082 412 7571  
Email: rowan@recservices.co.za

Dear Sir,

**FINAL SCOPING REPORT: FOR THE ACTIVITIES ASSOCIATED WITH THE PROPOSED FARMING FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REMAINDER OF PORTION 2 OF THE FARM UITMALKAAR 126 IR, KINROSS, GOVAN MBEKI LOCAL MUNICIPALITY.**

The scoping report and plan of study for environmental impact assessment which was submitted by you in respect of the above mentioned application and received on 23 September 2022 has been accepted by the Department. You may proceed with undertaking the environmental impact assessment in accordance with the tasks that are outlined in the plan of study for environmental impact assessment, subject to fulfilling all the requirements outlined in this Department's comments dated 21 September 2022, including the following:

1. At the draft EIAR stage, the thresholds of all activities applied for must be provided.
2. The coordinates of any watercourse that may be impacted must be provided in the draft EIAR with recommendations on the wetland assessment on what mitigation measures will be implemented to avoid operations and disturbance on wetlands/watercourses.
3. The layout map to be included in the EIAR must have a clear legend with information communicating with that on the map.
4. An environmental sensitivity map must be included in the EIAR indicating the location of sensitive environmental features on site such as the heritage site, wetlands and drainage lines that will be affected. The sensitivity map must also include buffer zones and no-go areas. SB

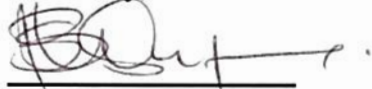
5. All comments received from interested and affected parties must be incorporated and addressed on the draft EIAR including comments from this department.
6. Note that this Department will not consider authorising the removal of indigenous vegetation from land that is not arable. Land that is not arable, due to *inter alia*, lack of sufficient water rockiness, steepness, excessive wetness, incorrect soil type etc., must be identified and excluded accordingly, and such exclusions must be illustrated clearly on the layout plan. The draft EIAR must demonstrate that land to be cleared is arable.

Please take note of the requirement of Appendix 4, paragraph 1(1)(c) with respect to the requirement for the inclusion of a layout map and sensitivity map in the EMPr.

You are reminded of the requirements of Regulation 23(1), and that if such requirements are not met, this application will lapse in terms of Regulation 45.

Please draw the applicant's attention to the fact that the activity may not commence prior to an environmental authorisation being granted by the Department.

Sincerely,



**Ms. S.B. MBUYANE**

**ENVIRONMENTAL IMPACT MANAGEMENT**

**DATE: 13/10/2022**

# APPENDIX 5F

## COMMENTS & RESPONSES REPORT



**PROPOSED FARMING ACTIVITIES FOR CROP PRODUCTION AND ASSOCIATED INFRASTRUCTURE SUCH AS A WORKSHOP AND CROP PRODUCTION TUNNELS ON THE REM. OF POR. 2 OF THE FARM UITMALKAAR 126IR, MPUMALANGA.**



**COMMENTS & RESPONSE SHEET**

**COMMENTS RECEIVED ON THE BID**

Name & Surname	Designation / Organisation	Contact Details	Comments	Response
None	None	None	None	None

**COMMENTS RECEIVED ON THE SCOPING REPORT**

Name & Surname	Designation / Organisation	Contact Details	Comments	Response
Sindisiwe Mbuyane Okwethu—kuhle Fakude Whitney Tshimbana	Mpumalanga Province Dept. of agriculture, rural development, Land & environmental affairs	13 De Jager Street Ermelo 2350 Mpumalanga Province  Private Bag X 2777 Ermelo 2350  Tel: +27 (17) 8114830 Fax: +27 (17) 8113944	<ol style="list-style-type: none"> <li>At the draft EIAR stage, the thresholds of all activities applied for must be provided.</li> <li>The coordinates of any watercourse that may be impacted must be provided in the draft EIAR with recommendations on the wetland assessment on what mitigation measures will be implemented to avoid operations and disturbance on wetlands/watercourses.</li> <li>The layout map to be included in the EIAR must have a clear legend with information communicating with that on the map.</li> <li>An environmental sensitivity map must be included in the EIAR indicating the location of sensitive environmental features on site such as the heritage site,</li> </ol>	<ol style="list-style-type: none"> <li>Already included.</li> <li>No watercourse will be impacted upon. Wetland assessment report included in the Draft EIR.</li> <li>Done. It is indicated on the Layout plan.</li> <li>Done. See Appendix 3B and 8.</li> </ol>



			<p>wetlands and drainage lines that will be affected. The sensitivity map must also include buffer zones and no-go areas.</p> <p>5. All comments received from interested and affected parties must be incorporated and addressed on the draft EIAR including comments from this department.</p> <p>6. Note that this Department will not consider authorising the removal of indigenous vegetation from land that is not arable. Land that is not arable, due to inter alia, lack of sufficient water rockiness. steepness, excessive wetness. incorrect soil type etc., must be identified and excluded accordingly, and such exclusions must be illustrated clearly on the layout plan. The draft EIAR must demonstrate that land to be cleared is arable.</p>	<p>5. Done.</p> <p>6. A Land Capability Report is attached in Appendix 8E.</p>

## APPENDIX 5G

PROOF OF REPORT DELIVERY TO STAKEHOLDERS AND PUBLIC

TO BE INCLUDED WITH THE FINAL EIR



## APPENDIX 6

EAP CV



# Curriculum Vitae

## Contact Details

---

Cell: 082 879 4218

E-mail: [rowan.vantonde@gmail.com](mailto:rowan.vantonde@gmail.com)

## Rowan Conrad van Tonder

### Personal Information

Date of Birth: 21 May 1981

Marital status: Married

Gender: Male

Nationality: South African

Age: 41

Place of Birth: Polokwane/Pietersburg

ID Number: 810521 5099 085

### EAPASA Reg. No.

2020/2579

### SACNASP

Pr.Sci.Nat. Reg. No.: 119204

### MASTERS DEGREE

M.Sc. Botany (University of Limpopo) - Conservation Management

### Dissertation

THE BIOLOGY, ECOLOGY AND CONSERVATION OF *EUPHORBIA GROENEWALDII* AN ENDANGERED SUCCULENT OF THE LIMPOPO PROVINCE

### HONOURS DEGREE

B. Sc. Physical Geography (Environmental Sciences)

### Subjects

Research Project 702

Honours Presentations 703

Geography: Its Evolution 710

Southern African Geomorphology / Arid Environments 782 / 795

Environmental Impact & Auditing 785

Environmental Change 789

B. Sc. Environmental Sciences

**DEGREE**

High School Education    Pietersburg High School

Highest Grade Passed    Grade 12

Subjects

Afrikaans	HG
English	HG
Accountancy	HG
Physical Science	HG
Mathematics	HG
Computer Science	HG

Languages

Home Language: Afrikaans  
Other Language: English

Accreditations and    Driver's Licence: Sedan + Tractor (CODE 8)

**Licenses****EMPLOYMENT RECORD/HISTORY**

<b>NOVEMBER 2011 - PRESENT</b>	<b>KEMS (Pty) Ltd.</b>
POSITION	Avifaunal Specialist
DUTIES	<ul style="list-style-type: none"> <li>• Avifaunal Impact Assessments</li> <li>• Avifaunal habitat scans</li> <li>• Red data species detection</li> <li>• Avifaunal habitat sensitivity mapping</li> </ul>
<b>MARCH 2008 - PRESENT</b>	<b>REC Services (Pty) Ltd.</b>
POSITION	<ul style="list-style-type: none"> <li>• Environmental Consultant / Assessment Practitioner</li> <li>• Environmental Control Officer</li> <li>• Projects Coordinator</li> </ul>
DUTIES	<ul style="list-style-type: none"> <li>• Project coordination</li> <li>• Environmental Impact Assessments &amp; ECO</li> <li>• EIA Reports compilation &amp; review</li> <li>• Environmental Management Programmes &amp; Plans</li> <li>• Terrain assessments or field work</li> <li>• Public Participation processes</li> <li>• Prospecting -, Mining Right &amp; Permit applications</li> <li>• Mine Closure applications</li> <li>• Wastewater treatment works licensing</li> <li>• Environmental Management Systems</li> <li>• Integrated Environmental Management Plans</li> <li>• Risk Management and Assessments</li> </ul>
<b>SEPT. 2005 - FEB. 2007</b>	<b>UNIVERSITY OF LIMPOPO</b>
POSITION	Research Assistant
DUTIES	<ul style="list-style-type: none"> <li>• Field work on the breeding biology of birds (Arid Zone) and the spatial distribution of Copepods (parasites) on Sharks (<i>Symbiotic Siphonostomatoids</i>)</li> </ul>

## EXPERIENCE RECORD

At KEMS/on my own (since 2011) i.e. 10 years' experience:

### AVIFAUNAL IMPACT ASSESSMENT

1. November 2011: African Grass-Owl (*Tyto capensis*) Habitat Assessment of Portion 7 (a portion of portion 5) of the farm RUSTFONTEIN 488-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
2. March 2012: Avifaunal Impact Assessment with the special reference to the African Grass-Owl (*Tyto capensis*) of Portion 432 (a portion of Portion 204) of the farm ZWAVELPOORT 373-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
3. Avifaunal Impact Assessment with special reference to the possible occurrence of the African Grass-Owl (*Tyto capensis*) on a portion of the remaining extend of portion 1 of the farm PUTFONTEIN 26 IR and a portion of the remaining extend of portion 3 of the farm KNOPPIESFONTEIN 23 IR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
4. April 2012: Avifaunal Impact Assessment with the reference on the African Grass-Owl (*Tyto capensis*) on Portion 1 and Portion 12 (a portion of Portion 6) of the farm TWEEFONTEIN 413-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
5. May 2013: Avifaunal Impact Assessment on THE FARM BOVENSTE OOG VAN MOOIRIVIER 271-IQ.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
6. November 2013: Avifaunal Impact Assessment with the reference to the Secretarybird (*Sagittarius serpentarius*) on PORTION 66 OF THE FARM KLIPDRIFT 90-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
7. November 2013: Avifaunal Impact Assessment with the reference to the Secretarybird (*Sagittarius serpentarius*) on PORTION 64 OF THE FARM KLIPDRIFT 90-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
8. December 2013: Avifaunal Red Data and Habitat Availability Scan on A PORTION OF PORTION 247 OF THE FARM ZWARTKOP 356-JR.
  - o Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
9. February 2014: Avifaunal Impact Assessment with special reference to the African Grass-Owl (*Tyto capensis*) and the African Marsh-Harrier (*Circus ranivorus*) on PORTION 116 ON THE FARM WITHOK 131-JR.
  - o Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
10. May 2014: Avifaunal Red Data and Habitat Availability Scan on PORTION 8 OF THE FARM HONIINGNESTKRANS 269-JR.
11. October 2014: Avifaunal Impact Assessment with the reference to the African Grass-Owl (*Tyto capensis*) and the African Marsh-Harrier (*Circus ranivorus*) on HOLDINGS 400 (PORTION 1) ON THE FARM WITHOK 131-JR.
  - o Report verified/reviewed by: Prof D. Engelbrecht. Pr. Sci. Nat.
12. March 2016: Avifaunal Impact Assessment with special reference to the African Grass-Owl (*Tyto capensis*) and the Secretarybird (*Sagittarius serpentarius*) on PORTION 48 ON THE FARM BRONKHORSTFONTEIN 329 IQ.
  - o Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
13. July 2016: Avifaunal Impact Assessment with special reference to the African Grass-Owl (*Tyto capensis*) on Remainder of Portion 102 (a portion of Portion 77) of the farm Roodekrans 183-IQ.
  - o Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.

14. January 2017: Avifaunal Impact Assessment with special reference to the: African Finfoot (*Podica senegalensis*), Half-collared kingfisher (*Alcedo semitorquata*), White-backed night heron (*Gorsachius leuconotus*) on Portions 10, 11, 12, 13, 24 and 74 of the Farm Kruitfontein 511-JQ.
  - Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
15. February 2017: Avifaunal Impact Assessment on the Lefa Colliery Mining Area near Deneysville.
  - Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
16. April 2017: Avifaunal Impact Assessment on the farms of weGrow Farming Enterprises (Pty) Ltd. near Amersfoort, Mpumalanga Province.
  - Report verified/reviewed by: Mr. J. Grosel. Pr. Sci. Nat.
17. September 2017: Avifaunal Impact Assessment with special reference to the possible occurrence of the African Grass-Owl (*Tyto capensis*) on a portion of the Remaining Extent of Portion 3 Knoppiesfontein 23-IR, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
18. October 2017: Avifaunal Red Data and Habitat Availability Scan on Portion 221 and the Remainder of Portion 115 of The Willows 340-JR, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
19. October 2017: Avifaunal Impact Assessment with special reference to the African Grass-Owl (*Tyto capensis*) and the Secretarybird (*Sagittarius serpentarius*) on Portion 49 & 50 of the farm Rooipoort 555-JR, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
20. November 2017: Avifaunal Impact Assessment on Portions 1 & 9 of the farm Zusterstroom 447-JR, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
21. November 2017: Avifaunal Red Data and Habitat Availability Scan on Portion 12 of the farm Liefde En Vrede 104-IR, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
22. December 2017: Avifaunal Impact Assessment of ROAD K6 BETWEEN HONINGNESTKRANS ROAD AND THE MOLOTO ROAD/R573, CITY OF TSHWANE METROPOLITAN MUNICIPALITY, GAUTENG PROVINCE.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
23. January 2018: Avifaunal Impact Assessment with special reference to the possible occurrence of the African Grass-Owl (*Tyto capensis*) on a portion of the Remaining Extent of Portion 3 Knoppiesfontein 23-IR, Phase 2, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
24. February 2018: Avifaunal Impact Assessment with special reference to the Secretarybird (*Sagittarius serpentarius*) on Portions 53, 127, 131, 135, and 158 of the farm Onderstepoort 300-JR.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
25. April 2018: Avifaunal Impact Assessment with special focus on: Red Data Species on the farms of No.2 Piggeries (Pty) Ltd., IDA, Eastern Cape Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
26. September 2018: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) on the farm of Holfontein 71-IR, Por. 49-54 & 61-63, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
27. September 2018: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) and the Secretarybird (*Sagittarius serpentarius*) on the farm Rooipoort 555-JR Portion 20, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
28. November 2018: Avifaunal Impact Assessment with special reference on: Avifaunal Red Data Species and Habitat Availability the Access Road leading to the Development on Portions 11, RE/12, RE/13, a ptn. of Ptn. 24 and 74 of the Farm Kruitfontein 511-JQ, Gauteng Province.
  - Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.

29. February 2019: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) in Ekangala B, Gauteng Province.
  - o Report verified/reviewed by: Mr. A. van den Berg. Pr. Sci. Nat.
30. March 2019: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) on the farm of Rondevly 208-IR, Por. 6 (small section), Mpumalanga Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
31. March 2019: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) & Secretarybird (*Sagittarius serpentarius*) on the farm of Alewynspoort 143-IR, Por. 25, Gauteng Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
32. May 2019: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) & Secretarybird (*Sagittarius serpentarius*) on the farm of Alewynspoort 143-IR, Por. 25, Gauteng Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
33. June 2019: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) on the farm of Rondevly 208-IR, Por. 6 & 8, Mpumalanga Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
34. February 2020: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) on the farm Mooiplaats 367-JR, Por. 331, Gauteng Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
35. February 2020: Avifaunal Impact Assessment with special focus on: African Grass-Owl (*Tyto capensis*) & Secretarybird (*Sagittarius serpentarius*) on the farm Boschhoek 385-IR, Por. 30, Gauteng Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)
36. March 2020: Avifaunal Impact Assessment Scan with special focus on: Red Data Species on the farm Molapong 692-KT, Limpopo Province.
  - o SACNASP Reg. No. 119204 (Pri.Sci.Nat.)

At REC Services (since 2008) i.e. 13 years' experience:

Mr. Van Tonder is currently involved with various applications for activities under the National Environmental Management Act (NEMA) (Act 107 of 1998), Mineral and Petroleum Recourses Development Act 2002 (Act No. 28 of 2002), and National Environmental Management: Waste Act, 2008 (Act 59 of 2008).

- Role Played: Environmental Assessment Practitioner (EAP), Consultant, Project Coordinator, as well as Environmental Control Officer at construction phases and yearly environmental audits on operational phases.

## BASIC ASSESSMENT PROCESS

### Industrial / Commercial / Residential Township / Office Developments

Wonderboom Residential Township Development (Pretoria, Gauteng, South Africa). March 2008 - August 2008: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (A Oosthuizen).

Mckay Residential Township Development (Meyerton, Gauteng, South Africa). March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Radius Projects (Pty) Ltd).

Proposed Eco-Residential development on Portion 64, Klipkop 396-JR (near Pretoria, Gauteng, South Africa) March 2008 - July 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Rohirrm Estates (Pty) Ltd.).

Proposed Office Development (Monavoni, Gauteng, South Africa) December 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain



activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Titanium Builders CC).

Proposed Township Establishment on Holding 50, Spitskop Small Holdings (Bloemfontein, Free State, South Africa) September 2008 - October 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Mimi Preller).

Proposed Township Establishment on Portion 224 (A Portion of Portion 43) of the Farm Rietfontein 485-Jq (Meerhof Ext. 6) (Hartbeespoort, North-West, South Africa). March 2008 - April 2012: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the North-West Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Chestnut Hill Investments 35 (Pty) Ltd.).

Proposed Residential Township (Bronberg Ext. 19) on Portion 4 of Holding 28 Olympus AH (Pretoria East, Gauteng, South Africa). November 2008 - October 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (J & O Beleggings Trust (Pty) Ltd).

Proposed Residential Development on a part of Portion A, Ga-Segonyana Municipality, Kuruman, Northern Cape Province, South Africa. Augustus 2013 - March 2015: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Northern Cape Department of Environment & Nature Conservation. The project is a Basic Assessment process. (Ellecon Developments CC).

Proposed Low Impact Industrial Development on the Remainder of Portion 120 of the Farm Winkelhaak 135-IS, in Kinross within the Jurisdiction of Govan Mbeki Local Municipality: Mpumalanga Province, South Africa. March 2016 - July 2017: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture, Rural Development, Land & Environmental Affairs. The project is a Basic Assessment process. (Afgri Operations (Pty) Ltd.).

Proposed Township Development on Portion 131 (a portion of Portion 2) of the Farm Zevenfontein 407-JR, Gauteng Province, South Africa. February 2017 - April 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a Basic Assessment process. (Silverlakes Trading 511 (Pty) Ltd.).

Proposed Transport 1 Type Development on Portion 1 & 22 of Knoetze Kama 234/George RD and Portions 35, 52 & 68 of Gwayang 208/George RD, Western Cape Province, South Africa. December 2018 -present: on hold. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Western Cape Government Environmental Affairs and Development Planning. The project is a Basic Assessment process. (Airports Company South Africa).

#### Smaller Developments

Guest House / Boutique Hotel, Restaurant and Hydro Health Spa Establishment (Broederstroom, North-West, South Africa). January 2011 - August 2015: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the North-West Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Duelco Investments 34 (Pty) Ltd).

Nursery and a Tea Garden / Coffee Shop Establishment (Broederstroom, North-West, South Africa). March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the North-West Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Gary Pahl and Lynn Rene Pahl).

The proposed establishment of sport, conference and accommodation facilities on portion 50, 75 and 129 on the farm Donkerhoek 365-JR (Pretoria, Gauteng, South Africa) March 2008 - Cancelled. *Environmental*

*Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Magnum Archery Pietersburg cc 1998/037486/23 Plot 129 Donkerhoek; Magnum Archery Potgietersrus cc 1998/036957/23 Plot 50 donkerhoek; Magnum Archery Bowhunting Academy cc 1998/036862/23 Plot 75 Donkerhoek).

Proposed Development of a Caravan Park and Camping Facilities on Portion 68 (a portion of Portion 50) of the Farm Leeuwkloof 285-JR, in The Dinokeng Game Reserve within the City Of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. July 2016 - August 2017: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Living Waters Properties (Pty) Ltd.).

Proposed Development (Church and access road) on Portions 11, Re/12, Re/13, A Ptn. of Ptn. 24 and 74 f the Farm Kruitfontein 511-JQ, Gauteng Province, South Africa. January 2018 - present: ??. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Catholic Archdiocese of Johannesburg Property).

### Filling Stations

Proposed Development of a Filling Station on Portion 4 of Erf 1254 In Mankweng C within Polokwane Local Municipality of Capricorn District (Mankweng, Limpopo Province, South Africa) February 2012 - March 2013: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Economic Development, Environment and Tourism. The project is a Basic Assessment process. (Organic Coral Investments).

Proposed Storage Tanks for the Purpose of a Filling Station on Remainder of Portion 247 of the Farm Zwartkop 356-JR, City Of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. December 2012 - February 2015: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Factobase Trading Enterprise (Pty) Ltd.).

The Development of a Filling Station with Underground Tanks (5 X 23 000ℓ) of a Total Capacity of 115 Cubic Metres at Letlhabile Block A, Situated on a portion of Erven 1401 and 1404, Madibeng Local Municipality, North West Province, South Africa. January 2013 - June 2016: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the North West Department of Rural Environment & Agriculture Development. The project is a Basic Assessment process. (Mzisi Oil (Pty) Ltd.).

Proposed Filling Station on Erf 1649, Capital Park Extention 1, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. March 2014 - October 2014: ROD. *Environmental Specialist*. Acting as the Environmental Consultant to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Ms. Bibi Fatima Dada).

Proposed Development of a Filling Station on the Ruth First Drive and Umkhangele Street Intersection, Soshanguve South (ZZ), City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. June 2016 - April 2017: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (SAFDEV SSDC (Pty) Ltd.).

Proposed Development of a Filling Station on the Remaining Extent of the Farm Trafalie 63/Beaufort West RD, in the Three Sisters Area, Western Cape Province, South Africa. July 2019 - present: ??. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Western Cape Government Environmental Affairs and Development Planning. The project is a Basic Assessment process. (Paternoster Development CC).

### Stormwater Structures

Stormwater channel in Winterveld, Soshanguve (Pretoria, Gauteng, South Africa) March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (City of Tshwane Metropolitan Municipality).

### Subdivisions

Subdivision on the Farm Kleinfontein (Bronkhortspruit, Gauteng, South Africa) March 2008 - August 2008: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Evening Shade Properties (Pty) Ltd).

Subdivision on the Farm Mooiplaats Portion 10 (Pretoria, Gauteng, South Africa) March 2008 - January 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (J & O Beleggings Trust 8760/06).

Subdivision on the Farm Mooiplaats Portion 12 (Pretoria, Gauteng, South Africa) March 2008 - January 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Dr. G Meyer).

Subdivision on the Farm Mooiplaats Portion 278 (Pretoria, Gauteng, South Africa) March 2008 - August 2008: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Dr. L.B. Wolfaardt).

Subdivision on the Farm Zwavelpoort Portion 77/78 (Pretoria, Gauteng, South Africa) March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Salestalk 154 (Pty) Ltd.).

Subdivision on the Farm Mooiplaats Portion 106 (Pretoria, Gauteng, South Africa) March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Solar Spetrum Trading 64 (Pty) Ltd.).

Subdivision on the Farm Mooiplaats Portion 196 (Pretoria, Gauteng, South Africa) March 2008 - August 2008: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Swallow Valley Farm (Pty) Ltd.).

Subdivision on the Farm Mooiplaats Portion 198 (Pretoria, Gauteng, South Africa) March 2008 - October 2009: Authorization Denied. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Andre van der Merwe).

### Sewage Works

Proposed Upgrading of the Sewage Works at Macadamia Patrol Base (Komatiport, Mpumalanga, South Africa) March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture and Land Administration. The project is a Basic Assessment process. (Ruwacon (Pty) Ltd).

### Roads & Pipelines

Nkomazi Service Access Road (Malelane, Mpumalanga, South Africa) August 2008 - March 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture and Land Administration. The project is a Basic Assessment process. (Topcoats Investments (Pty) Ltd).

K71 Phase 2 road upgrade (Centurion, Gauteng, South Africa) October 2008 – November 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a Basic Assessment process. (Gauteng Dept. of Public Transport, Roads and Works).

Proposed Construction of a Water Pipeline Across The Sandrivier (SAPS Base Kruger National Park, Mpumalanga, South Africa) March 2008 – Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Dept. of Environmental Affairs and Tourism. The project is a Basic Assessment process. (Ruwacon (Pty) Ltd).

### Farming Sector

Boekenhoutskloof Por. 9: Egg production facility (near Moloto, Gauteng, South Africa) July 2010 – Project cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Adonai Farm Lodge (Pty) Ltd.).

Elandsfontein Por. 5: Development of a livestock feedlot for Mount Carmel farms (near Bapsfontein, Gauteng, South Africa) September 2011 – Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Mount Carmel Farms).

Elandsfontein Por. 109: Egg production facility (near Bapsfontein, Gauteng, South Africa) March 2011 – June 2012: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Gert van Wyk Ondernemings (Pty) Ltd.).

Elandsfontein Por. 120: Chicken broiler facility (near Bapsfontein, Gauteng, South Africa) March 2011 – December 2013: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (For Real Chicks (Pty) Ltd.).

Proposed development of a Piggery (400 Sow Unit) on Portion 1 of the Farm Waaikraal 556 JR, Sivuyile Phambili, Delmas Local Municipality, Mpumalanga Province, South Africa. March 2013 – December 2013: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Sivuyile Phambili Trading).

Proposed Upgrading and Development of Facilities at Longside Pig Farm For No 2 Piggeries on Portion 24 of the Farm Uitzicht Alias Rietvalei 314-JR, City Of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. November 2015 – September 2016: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (No. 2 Piggeries Longside).

The Establishment of 4800 Sow Piggery on the Remaining Extent of the Farm Steynburg 7803-GS, located in Okhahlamba Local Municipality within Uthukela District (DC23), KZN, South Africa. June 2016 – May 2017: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Steynsburg Pork and Abattoir (Pty) Ltd).

Proposed Upgrading and Expansion of Facilities at Steenwyk Piggery, Welkom, Free State Province, South Africa. October 2016 – August 2017: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs. The project is a Basic Assessment process. (Number Two Piggeries (Pty) Ltd. Steenwyk).

Proposed 9600 Sow Unit Piggery and an Abattoir to be Established 20 Km East of Amersfoort, Mpumalanga Province, South Africa. April 2017 – June 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture, Rural Development, Land & Environmental Affairs. The project is a Basic Assessment process. (weGrow Farming Enterprises (Pty) Ltd.).

Proposed Construction of Two New Grower Houses and One New Weaner House on the Farm Banksloot 147-JS Por. 2, Near Roosenekal, Limpopo Province, South Africa. October 2017 – present: ??. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities

under NEMA to the Limpopo Department of Economic Development, Environmental and Tourism. The project is a Basic Assessment process. (Evilox 422).

Proposed 300 Sow Unit on Portion 3 of the Farm Vlaklaagte 233-IS, Mpumalanga Province, South Africa. October 2017 - November 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture, Rural Development, Land & Environmental Affairs. The project is a Basic Assessment process. (Janlizmar (Pty) Ltd.).

Proposed 4800 Sow Unit Piggery to be Established on Several Farm Portions in the Ida Area, Eastern Cape Province, South Africa. March 2018 - December 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Eastern Cape Department of Economic Development, Environmental Affairs & Tourism. The project is a Basic Assessment process. (No. 2 Piggeries (Pty) Ltd.).

Proposed Development of a Brooding Unit For Layer Rearing on Portions 28 of the Farm Stompiesfontein 273-IR, Mpumalanga Province, South Africa. May 2018 - December 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Mpumalanga Department of Agriculture, Rural Development, Land & Environmental Affairs. The project is a Basic Assessment process. (Rossouw Pluimvee Eiers (Pty) Ltd.).

Proposed Development of an Egg Laying Unit on the Farm New Hope, Near Hennenman, Welkom, Free State Province, South Africa. November 2018 - present: ??. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs. The project is a Basic Assessment process. (Number Two Piggeries (Pty) Ltd. Steenwyk).

#### Underground Storage Structures

Construction of underground tanks for Continental Inks(Durban, KZN, South Africa) February 2011 - June 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the KZN Department of Agriculture, Environmental Affairs and Rural Development. The project is a Basic Assessment process. (Continental Inks).

#### Cemeteries

Proposed Memorial Park Development on Portion 45 of the Farm Beynespoort 335 JR, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. January 2017 - January 2018: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (T/A Crest Property Investments.).

#### NEM WA PROCESS - Waste management license

Upgrade of the Wastewater Treatment Works at Waterval Prison (Waterval, KwaZulu-Natal, South Africa). April 2011 - November 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Dept. of Environmental Affairs. The project was a Basic Assessment process. (Dept. of Public Works).

Geluk Prison waste water treatment works & bulk water supply, repair, maintenance and operation (Bethal, Mpumalanga, South Africa). October 2011 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Dept. of Environmental Affairs. The project was a full EIA process. (Dept. of Public Works).

Chicken manure storage facility (cement slabs) and mortality pits on portion 109, a portion of portion 66 of the farm ELANDSFONTEIN 412-JR (Elandsfontein, Gauteng, South Africa). January 2012 -June 2012: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Gauteng Dept. of Agriculture and Rural Development. The project was a Basic Assessment process. (Gert van Wyk Ondernemings (EDMS) BPK).

Establishment of a dairy farm (Estina Mohoma Mobung Dairy) near the town of Vrede (Vrede, Free State, South Africa). January 2013 - June 2013: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Dept. of Environmental

Affairs. The project is a full EIA process. (Estina (PTY) Ltd.).

Development of a piggery for MANALLEEN Boerdery CC. The treatment of pig slurry. (Hoopstad, Free State, South Africa). July 2011 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Dept. of Environmental Affairs. The project was a Basic Assessment process. (Manalleen Boerdery CC).

Proposed Bioconversion Facility to be Developed on a Section of Portion 5 of The Farm Rietvallei 377-JR, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. August 2018 - present: ??. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEM WA to the Gauteng Department of Agriculture and Rural Development. The project is a Basic Assessment process. (Aegis Environmental (Pty) Ltd.).

## FULL EIA PROCESS

### Residential Township Establishments

Residential Township Establishment on the Farm Rooikopjes (Rayton, Gauteng, South Africa). March 2008 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Angel Five Developers (Pty) Ltd).

Bestwood Residential Development (Kathu, Northern Cape, South Africa). March 2008 - November 2008: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Northern Cape Department of Tourism, Environment and Conservation. The project is a full EIA process. (Katu Property Developers (Pty) Ltd).

Proposed Development of Phase 2 of Cashan Ext 8 (Rustenburg, North-West, South Africa). March 2008 - November 2010: Authorisation denied. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the North-West Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Burrie Smit Ontwikelaars (Pty) Ltd.)

### Sewage Treatment Systems

Upgrading of the sewage treatment system, Beitbridge (Beibridge, Limpopo, South Africa) May 2008 - June 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Limpopo Department of Economic Development, Environment and Tourism. The project is a full EIA process. (VIRTUAL BURO).

### Underground Storage Structures

Construction of structures & infrastructure for the underground storage of a dangerous goods (Edenvale, Gauteng, South Africa) March 2008 - June 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Hi-Tech Inks).

### Roads

K86 road construction (Daveyton, Gauteng, South Africa) August 2008 - July 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Ekurhuleni Metropolitan Municipality).

Proposed Construction of The Phokeng Western Bypass Road (Phokeng, Northwest Province, South Africa) March 2008 - October 2008: Consulted on. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Northwest Department of

Agriculture, Conservation and Environment. The project is a full EIA process. (North West Department of Transport, Roads and Community Safety)

Proposed Widening of the N4 along Section 5b between Belfast (Km 29.8) and Cross Roads (Km 58.76), the Proposed Interchange at Milly's Filling Station and the Proposed Interchange at Machadodorp, Maputo Development Corridor in Emakhazeni Local Municipality, Mpumalanga Province, South Africa. July 2015 - September 2016: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Dept. of Environmental Affairs. The project is a full EIA process. (South African National Roads Agency Limited).

Proposed Construction of Road K6 Between the future planned Road K207 (Known as Honingnestkrans Road/D1931) and the existing Road K139 (Known as the Moloto Road/R573), City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. May 2017 - April 2018: Unresolved. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Dept. of Environmental Affairs. The project is a full EIA process. (Gauteng Province Department of Roads and Transport).

#### Solar Farms

Bestwood Residential Development's Solar farm (Kathu, Northern Cape, South Africa). June 2010 - Cancelled. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Northern Cape Department of Tourism, Environment and Conservation. The project is a full EIA process. (Kathu Property Developers (Pty) Ltd).

#### Filling Stations

Proposed Construction of A Filling Station on Portion 356 (A Portion of Portion 44) of the Farm GROOTVLEI 272-JR (Petronella, Gauteng, South Africa) October 2009 - June 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Organic Coral Investments).

Proposed Construction of A Filling Station on Portion 479 (A Portion of Portion 316) of the Farm ZWAVELPOORT 373-JR (Pretoria East, Gauteng, South Africa) October 2009 - November 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture, Conservation and Environment. The project is a full EIA process. (Organic Coral Investments).

#### Industrial and Commercial

Proposed light industrial development on the Remainder of Portion 28 of the farm WITFONTEIN 15-IR (Springs, Gauteng, South Africa). August 2013 - March 2015: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under NEMA to the Gauteng Department of Agriculture and Rural Development. The project is a full EIA process. (Witfontein X28 (PTY) LTD).

### **MINING RIGHT APPLICATIONS**

Mining Right Application for Bon Accord Mine Quarry (Pretoria, Gauteng, South Africa). March 2008 - July 2009: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (City of Tshwane Metropolitan Municipality).

Mining Right Application for Stellenberg Quarry (Pretoria, Gauteng, South Africa). February 2009 - April 2010: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (City of Tshwane Metropolitan Municipality).

Mining Right Application for Mabopane Quarry (Mabopane, Gauteng, South Africa). February 2011 - On-hold. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an

application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (City of Tshwane Metropolitan Municipality).

Mining Right Application for Rietgat Quarry (Mabopane, Gauteng, South Africa). February 2009 - January 2011: ROD. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (V & V Consulting Engineers).

Mining Right Closure Application for Mamelodi Quarry (Mamelodi, Gauteng, South Africa). February 2010 - On-hold. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (City of Tshwane Metropolitan Municipality).

Mining Right Application for Stinkwater Quarry (near Mokone, Gauteng, South Africa). September 2010 - On-hold. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Minerals and Energy. (City of Tshwane Metropolitan Municipality).

Mining Right Application on a portion of Portion 8 of the Farm Honingnestkrans 269 JR, in The Magisterial District of Pretoria, Gauteng, South Africa. April 2011 - rejected. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included an application for certain activities under MPRDA read with NEMA to the Gauteng Department of Mineral Resources. (Zentralox (Pty) Ltd.).

## PROSPECTING RIGHT APPLICATIONS

List of successful prospecting right applications launched with DMR:

- Prospecting Rights done for INSA Coal (Pty) Ltd. in the Mpumalanga, Gauteng and Kwa-Zulu Natal area. The following codes and farm names are shown per application. Acting as the Environmental Consultant & EAP to each project.:
  - Mooimeisiesfontein
  - Katspruit
  - Groothoek
  - IC 1580
  - IC 1605
  - IC 1590
  - IC 1580
  - IC 1595
  - IC 1610
  - IC 1680
  - IC 1655
  - IC 1685
  - IC 1675
  - IC 1070
  - IC 1730
  - IN 1715
  - IC 1670
  - IC 1665
  - IC 050
  - IC 920
  - IC 960
  - IC 660

## S24G APPLICATIONS

Golf Course Development (Swartberg, Limpopo, South Africa). June 2009 - 2010: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain



activities under NEMA to the Limpopo Department of Economic Development, Environment and Tourism. The project is a section 24G application process. (Night Fire Investment 163 (Pty) Ltd.).

Potlog Storage and Workshop (Bapsfontein, Gauteng, South Africa). May 2010 - January 2011: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24 G application process. (Amoretta Investments CC).

Unlawful Construction of a Racing Track on Plot 25, Varkfontein (Bapsfontein, Gauteng, South Africa). September 2010 - September 2012: unresolved. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Darting Trading 89 (Prop) Ltd.).

Unlawful Construction of a Lapa and infilling of s water stream at Erf 228, Por. 227 of the farm Zwartkop, Hennospark, Gauteng, South Africa. March 2013 - unresolved. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Christoffel de Witt Oosthuizen).

Unlawful Construction of a Resort and Associated Facilities within a Sensitive Area at Portion 66 of the Farm Klipdrift 90-JR, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. October 2013 - March 2015: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Radium Engineering).

The Illegal Commencement/Continuation of a Listed Activity (Construction of Tourism Accommodation Facilities) on Portion 64 (a portion of Portion 62 of the Farm Klipdrift 90-JR, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. October 2014 - February 2017: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Radium Engineering).

Unlawful Construction of Tourism Accommodation Facilities (Camping Site) on Portion 26 of the Farm Welgevonden 93-JR, City of Tshwane Metropolitan Municipality, Gauteng Province, South Africa. April 2017 - March 2018: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Alwyn Nieuwoudt & Associates - Architects in Association).

Unlawful Commencement or Continuation of Listed Activities in Terms of Section 24G of the National Environmental Management Act (No 107 of 1998) on Portions 53 & 54 of the Farm Zandfontein 386 JQ, North West Province, South Africa. May 2018 - November 2018: Completed. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the North West Department of Rural Environment and Agricultural Development. The project is a section 24G application process. (Rica Meats (Pty) Ltd.).

Unlawful Commencement or Continuation of Listed Activities in Terms of Section 24G of the National Environmental Management Act (No 107 of 1998) on Portion 25 of the Farm Alewynspoort 145 IR, Gauteng Province, South Africa. May 2019 - on-going. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (The Christian Alliance Education Association Trust).

Unlawful Commencement or Continuation of Listed Activities in Terms of Section 24G of the National Environmental Management Act (No 107 of 1998) on the Remaining Extent of Portion 20 of the Farm Vastfontein 271 JR, Gauteng Province, South Africa. January 2019 - on-going. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application

process. (Louis Johannes Cilliers).

Unlawful Commencement or Continuation of Listed Activities in Terms of Section 24G of the National Environmental Management Act (No 107 of 1998) on the Remaining Extent of Portion 122 of the Farm Donkerhoek 365 JR, Gauteng Province, South Africa. June 2019 - on-going. *Environmental Specialist*. Acting as the Environmental Consultant & EAP to the project. This included a 24G application for certain activities under NEMA to the Gauteng Department of Agriculture, and Rural Development. The project is a section 24G application process. (Plurivert Investments (Pty) Ltd.).

## **ENVIRONMENTAL AUDITS**

Composting on Portion 194 of The Farm Rietfontein 115 IR, Gauteng Province, South Africa. July 2015 - present. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Petrus Johannes Bardenhorst).

The Construction and Operation of 14 Pig Grower Houses Each with Approximately 600 Pigs including the Water Storage Tanks, Offices with Ablution Facilities and Piggery Effluent and Manure Handling Pond, Portion 1 of the Farm Dorstfontein 553-JR, Gauteng Province, South Africa. August 2015 - present. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Topigs South Africa).

The Operation of 4 Pig Grower Houses with 16 Rooms, each with Approximately 450 Piglets including the Water Storage Tanks, Offices with Ablution Facilities and Piggery Effluent and Manure Handling Pond, Portion 0 (Remaining Extent) of the Farm Merino 641-IR, Mpumalanga Province, South Africa. November 2017 - present. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Topigs South Africa).

The Operation of the Grower, Sow Farming and Artificial Insemination Units on Portion 1. 9, 10 and 11 of the Farm Rietfontein 645, Mpumalanga Province, South Africa. November 2017 - present. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Topigs South Africa).

The Construction and Installation of the Above-Ground Tanks, with associated Infrastructure, at the Premises of Eagle Ink Systems, Westmead, Kwazulu Natal, South Africa. February 2018 - June 2018. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Flint Group SA (Pty) Ltd.).

The Extension of the Egg Production Facility on Portion 207 of the Farm Roodeplaar 293-JR, Gauteng Province, South Africa. November 2018. *Environmental Specialist*. Acting as the External Environmental Auditor on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation. (Nokeng Eiers CC).

## **ENVIRONMENTAL MONITORING**

Environmental Monitoring of Kameeldrift 298 JR portion 9, etc residential development (Pretoria, Gauteng, South Africa) March 2008 - July 2008. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Plan on site on a monthly basis. (Lebra Developments (Pty) Ltd.).

Environmental Monitoring of Serengeti Estates (Benoni, Gauteng, South Africa) March 2008 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Plan on site on a monthly basis. (African Kingdom Holdings (Pty) Ltd.).

Environmental Monitoring of the implementation of water pipes to a rural settlement (Mmakau, Gauteng, South Africa) March 2008 - September 2008. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Plan on site on a monthly basis. (Bigen Africa Consulting Engineers).

Environmental Monitoring of the construction of road K71 (Centurion, Gauteng, South Africa) March 2008 - May 2010. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Patula Construction (Pty) Ltd.).

Environmental Monitoring of the fence construction of Bryntirion Estate (Pretoria, Gauteng, South Africa) April 2008 - August 2010. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Khalema (Pty) Ltd.).

Environmental Monitoring of the Nkomazi Filling Stations (Malelane, Mpumalanga, South Africa) July 2008 - March 2009. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Topcoats Investments (Pty) Ltd.).

Environmental Monitoring of The Kingdom Resort (near Pilansberg, North West, South Africa) January 2009 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Ian Hayes-Hill).

Environmental Monitoring of the Nkomazi Filling Stations Access Road (Malelane, Mpumalanga, South Africa) June 2009 - September 2009. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Topcoats Investments (Pty) Ltd.).

Environmental Monitoring of the Construction of road K29 (Cosmo City, Gauteng, South Africa) March 2009 - April 2009. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (VIAPLAN CONSULTING ENGINEERS INC (Pty) Ltd.).

Environmental Monitoring of the Construction of the Phokeng Western By-pass Road. (Rustenburg, North-West, South Africa) February 2009 - July 2010. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Africon (Pty) Ltd.).

Environmental Monitoring of the Construction of the Katlehong Northern Access Road. (Katlehong, Gauteng, South Africa) June 2009 - June 2010. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (V&V Consulting Engineers (Pty) Ltd.).

Environmental Monitoring of the Beit Bridge Port of Entry: Upgrading of the Wastewater Treatment Works. (Beit Bridge, Limpopo, South Africa) September 2009 - June 2011. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (New Heights 66 (Pty) Ltd.).

Environmental Monitoring of the construction of road K71 ph.2 (Centurion, Gauteng, South Africa) February 2011 - March 2013. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Vela VKE (Pty) Ltd.).

Environmental Monitoring of the construction of a Piggery (Meisjesvlei, Limpopo, South Africa) July 2010 - June 2012. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Walt Landgoed (Pty) Ltd.).

Environmental Monitoring of the construction of a Cemetery (Kempton Park, Gauteng, South Africa) September 2010 - April 2011. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Ekurhuleni Municipality).

Environmental Monitoring of the construction of the Bestwood Residential Development (Kathu, Northern Cape, South Africa) October 2010 - October 2012. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Kathu Property Developers (Pty) Ltd.).

Environmental Monitoring of the construction of Fibre Optic Cable from Pretoria to Empangeni (Across Provinces, South Africa) September 2010 – February 2011. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Plessey (Pty) Ltd.).

Environmental Monitoring of Serengeti Golf and Wildlife Estate Curro School (Benoni, Gauteng, South Africa) July 2011 – July 2015. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (MNK Projects (Pty) Ltd.).

Environmental Monitoring of the construction of a Piggery (Vaalwater, Limpopo, South Africa) June 2011 – May 2012. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Vus'ithemba Project Solutions CC).

Environmental Monitoring of the construction of road K57 P1-1 (Tedderfield AH, Gauteng, South Africa) February 2012 – July 2013. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Aganang Consulting Engineers (Pty) Ltd.).

Environmental Monitoring of the construction of road K57 Ph.1b (Eikenhof/Walkerville, Gauteng, South Africa) November 2013 – September 2016. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Aganang Consulting Engineers (Pty) Ltd.).

Environmental Monitoring of the widening of the existing Cross-Section of Road N14 from the intersection at Road P116-3 and Road P28-1 (Carltonville, Gauteng, South Africa) April 2012 – August 2013. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Aurecon South Africa (Pty) Ltd.).

Environmental Monitoring of the construction of the upgrade of the Wastewater Treatment Works at Waterval Prison (Waterval, KwaZulu-Natal, South Africa). Feb 2012 – January 2013. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (Dept. of Public Works).

Environmental Monitoring of the construction of a Filling Station on Erf 1802, Northam Extension 6, Limpopo, South Africa. April 2014 – June 2015. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Program and Authorisation on site on a monthly basis. (MPJF Investments CC).

Environmental Monitoring of the Kwa-Guqa Filling Stations (Kwa-Guqa, Mpumalanga, South Africa) November 2015 – June 2016. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Plan on site on a monthly basis. (CC Hardware and Cycle (Pty) Ltd. T/A Lenasia Builders & Project Developers.).

Environmental Monitoring of the construction of a Filling Station on Portion 356 (a portion of Portion 44) of the Farm Grootvlei 272-JR, Gauteng, South Africa. February 2018 – May 2019. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Program and Authorisation on site on a monthly basis. (Organic Coral Investments).

Environmental Monitoring of the construction of a Filling Station on Erven 43 Crown Ext.2, City of Johannesburg Municipality, Gauteng, South Africa. March 2016 – April 2017. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Program and Authorisation on site on a monthly basis. (CC Hardware and Cycle (Pty) Ltd. T/A Lenasia Builders & Project Developers).

Environmental Monitoring of the Piggery Construction Phase on Portion 1 of the Farm Leeuwkuil 500 KR, Limpopo, South Africa. June 2018 – November 2018. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholding of the Environmental Management Program and Authorisation on site on a monthly basis. (Walt Landgoed (Pty) Ltd.).

Environmental Monitoring of the Construction of a Piggery Sow Unit Facility on Remainder of Portion 2 of the Farm Biesjeskuil 143-JR, Limpopo, South Africa. November 2018 – present. *Environmental Specialist*. Acting as

the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (Walt Landgoed (Pty) Ltd.).

Environmental Monitoring of the Construction of Various Road-over-spruit culvert Bridges in Soshanguve HH - RTD01-2016/17 - TIDC012, Gauteng, South Africa. March 2019 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (Kabe Consulting Engineers (Pty) Ltd.).

Environmental Monitoring of the Construction of the Piggery on Zoetfontein 4-HT Remainder, Zoetfontein 4-HT Portion 2, & Kleinfontein 3-HT Portion 3, Mpumalanga, South Africa. March 2019 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (weGrow Farming Enterprises (Pty) Ltd.).

Environmental Monitoring of the Construction of the Piggery on Cayley Mountain Lodge, Kwa-Zulu Natal, South Africa. March 2019 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (The Holiday Club (Pty) Ltd.).

Environmental Monitoring of the Construction phase on Portion 3 of the Farm Aylestone 591 JT Macadamia Nut Orchard Establishment, Mpumalanga, South Africa. June 2019. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (D. Hoffman).

Environmental Monitoring of the Construction phase on Portion 4 of the Farm Aylestone 591 JT Macadamia Nut Orchard Establishment, Mpumalanga, South Africa. June 2019. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (J. Hoffman).

Environmental Monitoring of the Construction of the Abattoir on Portion 0 of Erf 119 in Industriqwa IA, Harrismith, within the Jurisdiction of Maluti-A-Phofung Local Municipality, Free State, South Africa. June 2019 - present. *Environmental Specialist*. Acting as the Environmental Control Officer on the project. This included regulating and upholdment of the Environmental Management Program and Authorisation on site on a monthly basis. (Steynsburg Pork and Abattoir (Pty) Ltd.).

# APPENDIX 7

## NEED AND DESIRABILITY REPORT





## NEED AND DESIRABILITY STATEMENT

Revision 00  
Effective Date 03/08/2022  
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Document No. MS.F.055

### Farm Uitmalkaar 126 IS

#### **Scope of Activities:**

- Controlled Cultivation of Fruits and Vegetables (Greenhouse Cultivation) / Cultivation of Open Land Crops
- Manufacturing and Supply of Paper Products & Hygiene Consumables

#### **Need and Desirability of the activity (demand for the activity):**

**CROPS**

#### **Timing:**

In South Africa, rapid population growth, coupled with increasing economic prosperity, continues to create rapid demand for the agricultural sector. It was estimated that the population of South Africa will reach 82 million by 2035. With the increasing population, the demand for food is projected to double in the coming years.

The demand for fruits and vegetables in the country is further driven by increasing income, rapid urbanization, and a shift in consumers' diet preferences toward nutritional food. The food consumption rates in the country are rising almost 5-6 times faster than the local production. In 2018, fruits and vegetables accounted for 16% of the total food products consumed in the country, and the demand for off-season fruits in the country is usually met through rising imports.

People in the country are discovering the link between healthy food and their well-being. Crops, such as potatoes, tomatoes, onions, sweet corns and beetroots are some of the major fruits and vegetable crops identified as the key crops driving the agriculture sector in the country, during the forecast period.

The increasing need for food security within a booming population and greater demand from a rising middle-class population for food is driving the growth of the agriculture sector in the country. Improved awareness across various social media platforms related to health and well-being has boosted the demand for various food products and, in particular fresh fruits and vegetables.

With the rising health consciousness, there is also an increasing consumption trend toward varieties of off-season fruits, which are usually met by rising imports. An increase in demand for fruits and vegetables was reflected by the rise in the imports of fruits and vegetables. Therefore, the increasing demand for food crops due to the rising population in the country, especially for fruits and vegetables, is anticipated to drive the market during the forecast period.

The South African food crop market has matured considerably since the deregulation of marketing. Producers, traders, and other intermediaries interact freely in the marketing of their produce. The government of South Africa also gives the freedom to the farmers to choose the market where they want to trade their products, and hence, if the farmers do not get desirable prices for their production, then they can trade their commodities in the international market.

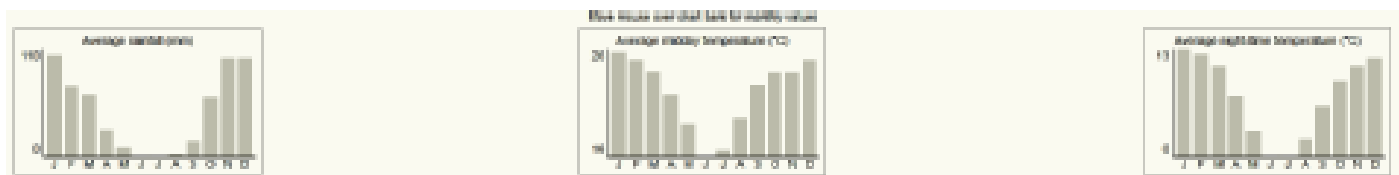
Mondor Intelligence - AGRICULTURE IN SOUTH AFRICA - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECASTS (2022 - 2027)

**Place:**

As per the Rainfall Planting Calendar illustrated below, the *location of the farm* provides all-year selected planting options. The combination of Open Field Cultivation coupled with Controlled Cultivation in greenhouses will provide local and other markets with the sustained availability and supply of seasonal and off-season fruits and vegetables.

**Climate, Rainfall and Adverse Conditions (Frost, Hail, etc.)**

The location of the Farm is regarded as a predominant summer rainfall area. The average rainfall for the area is ±560mm per annum. The average daily summer temperature is between 16°C and 26°C and the average daily winter temperature is between 0°C and 18°C. Although hailstorms can occur, these are the exception. The area does get heavy frost during colder conditions.



Climate chart

**Mpumalanga Rainfall Planting Calendar**

VEGETABLES & FRUITS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Amaranth									P	P		
Asparagus	TS							P	P	P	P	P
Beans – Broad				P	P							
Beans – Dwarf/Bush/French	P							P	P	P	P	P
Beans – Pole/Runner								P	P	P	P	P
Beetroot	P	P	P	P				P	P	P	P	P
Broccoli	P	P										P
Brussels Sprouts	P	P	TS									
Cabbage	P	P	P	TS			P	P	P	P	P	P
Cape Gooseberry								ST	P	TS		
Capsicum/Sweet Peppers								ST	P	P	TS	
Carrot	P	P	P	P				P	P	P	P	P
Cauliflower	P	P	P								P	P
Celeriac		P	P	TS								
Celery		ST	P	TS				ST	P	P	P	TS
Chicory								P	P	P		
Chilli/Hot Peppers								ST	P	P	TS	
Chinese Cabbage		P	P	TS								
Collards			P	P	P	TS						
Corn Salad									P	P	P	
Corn/Maize									P	P	P	
Cucumber									P	P	P	P
Eggplant								P	P	P	TS	
Endive		P	P					P	P			
Florence Fennel									P	P	P	
Garlic		P	P	P								
Globe Artichokes	ST		P	TS	TS							
Horseradish			P	P	P							
Jerusalem Artichokes	P	P							P	P	P	P
Kale	P	P	P	P	P	TS						
Kohlrabi	P	P	P	P	P							
Leeks	P	P	P	P	TS							
Lettuce	P	P	P	TS				P	P	TS	TS	
Luffa									P	P	P	
Melon/Cantaloupe									P	P	P	
Mizuna			ST	P	P							
Mustard Greens	P	P	P	P	P				P	P	P	P
NZ Spinach								P	P	P	P	TS



Okra	P	P								P	P	P
Onion		P	P	TS								
Pak Choy			P	P	P	TS						
Parsnip	P	P	P	P			P	P	P			
Peas			P			P	P	P	P			
Potato	P	P				P	P	P	P	P		
Pumpkin									P	P	P	
Radish	P	P	P	P				P	P	P	P	
Rhubarb								P	P			
Rocket	P	P	P	P	P				P	P	P	P
Salsify			P	P	P				P			
Shallots		TS	TS	TS	TS	TS	TS	TS	TS			
Spinach	P	P	P	P				P	P	P	P	P
Spring Onions		P	P	P								
Squash (Summer & Winter Squash)									P	P	P	

VEGETABLES & FRUITS (Cont.)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Strawberries (from seeds)	TS								ST	P	P	P
Strawberry Plants								P	P	P	P	
Sunflower	P	P	TS						P	P	P	P
Swedes/Rutabagas	P	P	P	P				P	P			
Sweet Potato										P	P	P
Swiss Chard		P	P	TS				P	P	P	TS	
Tomatillo									ST	P	P	TS
Tomato	P	P	TS					ST	P	P	P	P
Turnip	P	P	P	P				P	P			
Watermelon									P	P	P	
Yam										P		
Zucchini/Courgette									P	P	P	

HERBS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Angelica			P	P	P				P	P	P	TS
Basil	P	P	P	P					P	P	P	P
Borage	TS								P	P	P	P
Bronze Fennel									P	P	P	
Chives	P	P	P	P	P			P	P	P	P	P
Coriander	P	P							P	P	P	P
Dill	P	P	P	P	TS				ST	P	P	P
French Tarragon	P	P	P	P	TS				ST	P	P	P
Ginger									P	P	P	
Lemon Balm								ST	P	P	P	TS
Mint	P	P	P	P	P	P	P				P	P
Oregano	P	P	P	P	P	TS			ST	P	P	P
Parsley	P	P	P	P	P	TS			P	P	P	P
Rosemary	TS	TS							P	P	P	TS
Sage	TS	TS						P	P	TS	TS	TS
Summer Savory									ST	P	P	TS
Sweet Marjoram	P	P	P	P	P	TS			ST	P	P	P
Thyme			P	P	P				ST	P	P	P
Winter Savory									ST	P	P	TS

**Benefits that the activity will have for society:**

**1. Preserves Land for Agriculture**

The preservation, development and sustainable use of agricultural land are of vital importance to ensure long-term food security in South Africa.

Preserving farmland close to where people live create the opportunity for people to be intimately connected to the land, their food and the farmers who grow it.

To protect and preserve agricultural land and its productive use will:

- ensure national and household food security;
- ensure that agricultural land remains available and viable for agricultural development;
- ensure sustainable development of the agricultural sector;
- maintain and increase rural employment;
- ensure a reduction in poverty levels and a sustained improvement in quality of life, and;
- increase agricultural production and the contribution of agriculture to the Gross Domestic Product (GDP).

**Benefits that the activity will have for the local communities where the activity will be located:**

The importance of agriculture to the community cannot be overstated. For one, it creates jobs for members of the community, boosts the community's economic growth, sustains the community by the food source, and other raw materials.

### **Positive impacts of Agriculture on the community:**

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#### **1. Provides a New Model for Sustainable Farming**

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Beyond preserving the land, developments around agriculture cultivates healthy communities that promote healthy lifestyles around strong connections between people and the land, their food and their neighbors.

This integrated economic model, instead of displacing farmland for activities such as housing development, can be a catalyst in preserving the farmland for nourishing the growing community.

#### **2. Increases Access to Healthy Local Food**

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The lack of access to healthy and nutritious food is increasing the disparities between higher-income and lower-income communities.

#### **3. Promotes Agricultural Education**

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As Farm Workers and Residents to local communities, these people will learn how to give the land more than what they take from it, facilitating action that fosters healthier more sustainable food systems by adding home grown foods to their gardens and small holdings. Adding agriculture to a community promotes education in farming, food production and land preservation across the spectrum. This also enables parents to share their agricultural learnings and skills unto their children. This ultimately provides a platform for next-gen training to both teach and practice sustainable farming for the future.

#### **4. Supports Local Economy**

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Local farms help keep food capital in the local economy and support small businesses, farmers, and entrepreneurs, and also serve as platform for products and services that grow from the farm, such as value-added food products, garden education and management services, programs and events on the farm.

#### **5. Benefits the Natural Environment**

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We not only want to reduce our negative impact on the environment, but also want to find ways to positively impact it. We're stewards of the land and it is our collective responsibility to retain and enhance its quality and abundance of its nature capital, such as water and soil.

Adding agriculture to the community does this in several ways:

- Making food production and consumption hyperlocal decreases food distances, the distance food travels to the table, which reduces our carbon footprint;
- Waste is minimized when production is local with minimized packaging etc;
- Building up soil fertility through farming practices such as cover crops, compost and animals helps store carbon in the soil, reduce need for irrigation and fertilizer and increase the productivity of the land for food production.

These reasons encompass one critical purpose, to give back to the Earth what we take from it. We don't own this land, and we have a responsibility to preserve it and help make it better for generations to come.

**Need and Desirability of the activity  
(demand for the activity):**

**MANUFACTURING AND SUPPLY**

### ***Timing:***

Tissue paper refers to a soft, lightweight, and highly absorbent paper primarily used for sanitation and hygiene purposes. It is preferred as a more convenient and suitable option for cleaning and drying wet surfaces, in comparison to cloth wipes. Furthermore, tissue papers are biodegradable, cost-effective, and offer wide product variants, including perforated, embossed, or colored tissues. Tissue papers are extensively adopted across the residential and commercial sectors in the form of paper towels, pocket tissues, napkins, wrapping tissues, toilet rolls, etc.

After three years of decline, the South African toilet paper market value eventually increased in 2021, and the Africa tissue paper market is expected to exhibit a CAGR of 7.5% during 2022-2027.

The elevating levels of urbanization coupled with the improving consumer living standards in the region are augmenting the demand for tissue papers. Furthermore, the introduction of numerous initiatives by the African governments for creating awareness regarding health and hygiene among masses is also propelling the market growth. In line with this, several international organizations are launching various hygiene and sanitation programs in the region, thereby further driving the product demand. Additionally, the rising influence of western lifestyle trends along with the wide availability of product variants across both brick-and-mortar and online retail channels is also creating numerous growth opportunities for the tissue paper market.

Imarc - Africa Tissue Paper Market: Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

Mpumalanga is home to some Manufactures / Converters of Paper Products, however to this day no local producers are available which in turn influence the immediate availability of the products with emphasis on the need for bulk supply of these products to the industrial sector in particular. This comes from firsthand company experience within the cleaning and hygiene sector, whereby products are purchased from suppliers as far as Kwazulu Natal.

With many years of experience within the cleaning and hygiene arena, the company has identified, adapted to and created a unique solution to household and industrial issues that conventional tissue papers and paper products have on plumbing and wastewater, such as clogged pipes and the overall breakdown and degrading of paper within water systems. The company has teamed with, and also poses sole-supply and distribution rights with an International Bio-Technology Company for the treatment of the paper products that will be produced in-house. This technology will be the first for South Africa, the African Continent at large, and interconnected SADC Countries to which these paper products will be exported.

## **Place:**

---

With the above said, the company's location is paramount to ensure the availability of products to our direct markets. With the absence of local producers, companies, suppliers, supermarkets and retailers are forced to procure these products from suppliers from far distances which affects the product's overall financial sense.

The Farm in essence makes it possible for a hassle free 'future production expansion' as what companies would face within the town's industrial 'zone'. Manufacturing facilities and warehouses within the industrial spaces (Secunda) are not only impossible to obtain at the present moment, but also comes with either a hefty price tag for purchase or rent or does not suit the intended utilization at all.

The risk profile of the paper manufacturing operations does not include any air, land or water pollution, waste generation, environmental, transport or traffic nuisance, thus the location of the manufacturing facility will be suitable. The company converts paper only which does not involve any pulp or paper manufacturing.

### **Benefits that the activity will have for society:**

Our manufacturing project will provide a locus for stimulating the growth of other activities such as related services and achieving specific outcomes such as employment creation and economic empowerment.

With the introduction of innovative technologies and methodologies within our manufacturing operations will further increase productivity levels. In addition, the manufacturing project creates employment opportunities, boosts the skills of the workforce, reinforces the direct economy, extends developments into the wider economy and will support social stability. Furthermore, our manufacturing project will contribute to provide a level of competition between our counter parts along with producing goods for export.

### **Benefits that the activity will have for the local communities where the activity will be located:**

Our manufacturing operations will be important to our local community as it will:

- provide skilled and unskilled job opportunities;
- improve the quality of the local skill base;
- support the local and regional suppliers of materials and services, and;
- promote training opportunities.

The more we can offer existing and potential clients the better for everyone.

# APPENDIX 8A

## VEGETATION HABITAT ASSESSMENT



**SPECIALIST REPORT**

**TERRESTRIAL BIODIVERSITY ASSESSMENT AND VEGETATION  
ASSESSMENT FOR FARMING ACTIVITIES ON THE REMAINDER OF  
PORTION 2 OF THE FARM UITMALKAAR 126-IR, MPUMALANGA.**



Prepared by



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**Report for**

**Nampula Mpumelelo (Pty) Ltd**

**14 August 2022**

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<b>SPECIALIST CHECKLIST</b>	
<b>Contents of this report in terms of Regulation GNR 982 of 2014 as amended, Appendix 6</b>	<b>Cross reference section</b>
(a) details of— the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a curriculum vitae;	Page i
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Page ii
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.1
(d) the date and season of the site investigation and the relevance of the season to the outcome of the assessment;	Section 1.1
(e) a description of the methodology adopted in preparing the report or carrying out the specialized process;	Section 1.4 and 2
(f) the specific identified sensitivity of the site related to the activity and its associated structures and infrastructure;	Section 4.3.1
(g) an identification of any areas to be avoided, including buffers;	Section 4.3.1
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Section 4.3.1
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.2
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment;	Section 4.4, 4.5
(k) any mitigation measures for inclusion in the EMPr	Section 4.4
(l) any conditions for inclusion in the environmental authorization	Section 5
(m) any monitoring requirements for inclusion in the EMPr or EA	Section 6
(n) a reasoned opinion if the activity should be authorized	Section 7
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Not Applicable
(p) a summary and copies of any comments received during any consultation process	Not Applicable
(q) any other information requested by the competent authority	Not Applicable

## ***Abstract***

The project scope included the assessment of the remainder of Portion 2 of the Farm Uitmalkaar 126 IR, Mpumalanga. The scope of the project is to use the area for crop production and other agricultural uses.

The proposed site is located within a Vulnerable Vegetation unit (Soweto Highveld Grassland) in terms of the List of Threatened Ecosystems in need of protection (GN1002 of 2011). The 2018 National Biodiversity Assessment indicated the site as being located within areas that are not protected and indicated them as of “Vulnerable”. The site is in an area of “Heavily Modified” and partially in “Other Natural areas” as per the Mpumalanga Biodiversity Sector Plan. Lastly is the site indicated as “No Natural Habitat remaining in the Mpumalanga terrestrial assessment except for a part on the far south of the site.

The sensitivity analysis indicated that the site had a sensitivity for areas not contained within river and wetland areas as per the methodology used listed in Section 2.4 of this report. The wetland areas and stream areas were awarded a High Sensitivity and other natural areas were rated as having a medium sensitivity.

Four impacts were identified in the Impact Assessment section in 4.4 above. All the impact significance could be mitigated to a low sensitivity with the implementation of measures.

A total of 3 plants were identified on and around the site that is listed in the Alien and Invasive Species. These plants need to be controlled in accordance with an Alien Invasive Plant management plan.

## 1 INTRODUCTION

KEMS has been commissioned to compile a Terrestrial Biodiversity Assessment and Plant species assessment report for clearance of vegetation needed for the establishment of various farming activities.

### 1.1 Terms of Reference

The terms of reference for the Vegetation Assessment are as follows:

- a Baseline description of the ecological drivers and processes of the system and how the proposed project will impact these.
- Ecological functioning assessment of ecological processes.
- Assessment of the ecological corridors that the proposed development would impede including migration and movement of flora and fauna.
- Description of any significant terrestrial landscape features (including rare or important flora-faunal associations, presence of strategic water source areas (SWSAs) or freshwater ecosystem priority area (FEPA) sub-catchments.
- a Description of terrestrial biodiversity and ecosystems on the preferred site, including:
  - a) main vegetation types.
  - (b) threatened ecosystems, including listed ecosystems as well as locally important habitat types identified.
  - c) ecological connectivity, habitat fragmentation, ecological processes, and fine scale habitats; and
  - (d) species, distribution, important habitats (e.g., feeding grounds, nesting sites, etc.) and movement patterns identified.
- A site inspection will be undertaken which will identify:
  - terrestrial ecological support areas (ESAs), including:
    - (a) the impact on the ecological processes that operate within or across the site.
    - (b) the extent the proposed development will impact on the functionality of the ESA; and
    - (c) loss of ecological connectivity (on site, and in relation to the broader landscape) due to the degradation and severing of ecological corridors or introducing barriers that impede migration and movement of flora and fauna.

- Plant species screening on the screening tool indicated the site as a medium plant species sensitivity. A Terrestrial Plant Species assessment is necessary in accordance with the screening tool.
- Describe and map the vegetation types in the study area to determine the sensitivity of the areas already developed.
- Describe the floral biodiversity and record the plant species that occur in each vegetation type.
- Provide a species list of plants occurring on site, as well as any declared invasive plants
- Determine the sensitivity of the site.
- Determine the presence and potential habitat of red and orange data species within the proposed study area and proximity, including the inventory of such species found on site.
- Provide a map indicating the location and photographic means of identified species which should be relocated before the start of construction.
- Identify and assess the impacts of development on the site's natural vegetation in terms of habitat loss, fragmentation, and degradation of key ecosystems, impacts on individual plants and, where feasible, provide mitigation measures to reduce these impacts.

KEMS undertook a site visit on 24 April 2022 and undertook the corresponding survey. The survey was undertaken after good rains. The findings of the study are based on a desktop assessment of the study area, analysis of aerial imagery and a field survey of the site.

### **1.2 Assumptions, limitations, and gaps in knowledge**

Red and orange list species are, by their nature, very rare and difficult to locate. No suitable habitat for listed plant species exists. It is important to note that, although the predicted impacts are mostly concerned with Red Data species, any sensitive non-Red Data species will also benefit from the proposed mitigation measures as they share the same habitat and face the same potential impacts as the Red Data species. The KEMS team has appropriate training and as well as practical experience and access to wide-ranging data bases to consider the derived species lists with high limits of accuracy. In instances where uncertainty exists regarding the presence of a species it is listed as a potential occupant, which renders the suggested mitigation measures and conclusions more vigorous.

Even though every care is taken to ensure the accuracy of this report, environmental assessment studies are limited in scope, time, and budget. Discussions and proposed mitigations are to some extent made on

reasonable and informed assumptions built on *bone fide* information sources, as well as deductive reasoning. Deriving a 100% factual report based on field collecting and observations can only be done over several years and seasons to account for fluctuating environmental conditions and migrations. Since environmental impact studies deal with dynamic natural systems additional information may come to light at a later stage. KEMS can thus not accept responsibility for conclusions and mitigation measures made in good faith based on own databases or on the information provided at the time of the directive. This report should therefore be viewed and acted upon with these limitations in mind. The project area and project description are based on the area as supplied by the applicant.

### **1.3 Importance of / Reasoning behind Proposed Development**

The study site has been identified for the establishment of structures and infrastructures for farming activities. The proposed project will fall under agriculture.

### **1.4 Study Approach**

The study approach was adopted and modified in accordance with the methods described by David Hoare from David Hoare Consulting CC (Full credit) and Beryl Wilson (Full credit) at the McGregor Museum. The methods and approach have been modified to adhere to the specialized assessment for the study site as described.

## **2 METHODOLOGY**

To describe the overall site characteristics, Google earth imagery and 1:50 000 topographical maps were used and examined . Many parts of South Africa contain high levels of biodiversity at species and ecosystem level. At any single site there may be large numbers of species or high ecological complexity. Sites also vary in their natural character and uniqueness and the level to which they have been previously disturbed. Assessing the impacts of a proposed project often requires evaluating the conservation value of the site relative to other natural areas of the site in terms of biodiversity conservation. A simple approach to evaluating the relative importance of a site and the species found within it includes assessing the following:

- Is the site unique in terms of natural or biodiversity features?
- Is the protection of biodiversity features on site of national/provincial importance?
- Would development of the site lead to contravention of any international, national, or provincial legislation, policy, convention, or regulation?

Thus, the general approach and angle adopted for this type of study is to identify any potential flora species that may be affected by the proposed study site. This means that the focus of this report will be on rare, threatened, protected and conservation-worthy species, as well as clearance of indigenous vegetation. A species list will be provided for the plant's species found on site. Rare, threatened, protected and conservation-worthy species and habitats are the highest priority, the presence of which is most likely to result in significant negative impacts on the ecological environment. The focus on national and provincial priorities and critical biodiversity issues is in line with National legislation protecting environmental and biodiversity resources.

## 2.1 Red data plants

South Africa has adopted the IUCN Red List Categories and Criteria to provide an objective, rigorous, scientifically founded system to identify Red List species. A published list of the Red List species of South African plants (Raimondo et al. 2009) contains a list of all species that are at risk of extinction. This list is updated regularly to take new information into account, but these are not published in book/paper format. Updated assessments are provided on the SANBI website (<http://redlist.sanbi.org/>). According to the website of the Red List of Southern African Plants (<http://redlist.sanbi.org/>), *the conservation status of plants indicated on the Red List of South African Plants Online represents the status of the species within South Africa's borders. This means that when a species is not endemic to South Africa, only the portion of the species population occurring within South Africa has been assessed. The global conservation status, which is a result of the assessment of the entire global range of a species, can be found on the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species: <http://www.iucnredlist.org>.* The South African assessment is used in this study. An explanation of the conservation categories is provided in Table 1. The purpose of listing Red List plant species is to provide information on the potential occurrence of species at risk of extinction in the study area that may be affected by the proposed infrastructure. Species appearing on these lists can then be assessed in terms of their habitat requirements to determine whether any of them have a likelihood of occurring in habitats that may be affected by the proposed infrastructure. Lists were compiled by information obtained from the new SANBI Plants of South Africa (POSA) website.

**Table 1: Explanation of IUCN Ver. 3.1 categories (IUCN, 2001), and Orange List categories (Victor & Keith, 2004).**

IUCN / Orange List category	Definition	Class
-----------------------------	------------	-------



EX	Extinct	Extinct
CR	Critically Endangered	Red List
EN	Endangered	Red List
VU	Vulnerable	Red List
NT	Near Threatened	Orange List
Declining	Declining taxa	Orange List
Rare	Rare	Orange List
Critically Rare	Rare: only one subpopulation	Orange List
Rare-Sparse	Rare: widely distributed but rare	Orange List
DDD	Data Deficient: well-known, not enough information for assessment	Data Deficient
DDT	Data Deficient: taxonomic problems	Data Deficient
DDX	Data Deficient: unknown species	Data Deficient
LC	Least Concern	Least Concern

For all listed plant species that occur in the general geographical area of the site, a rating of the likelihood of it occurring on site is given as indicated in Table 2 below.

**Table 2: Likelihood of occurrence.**

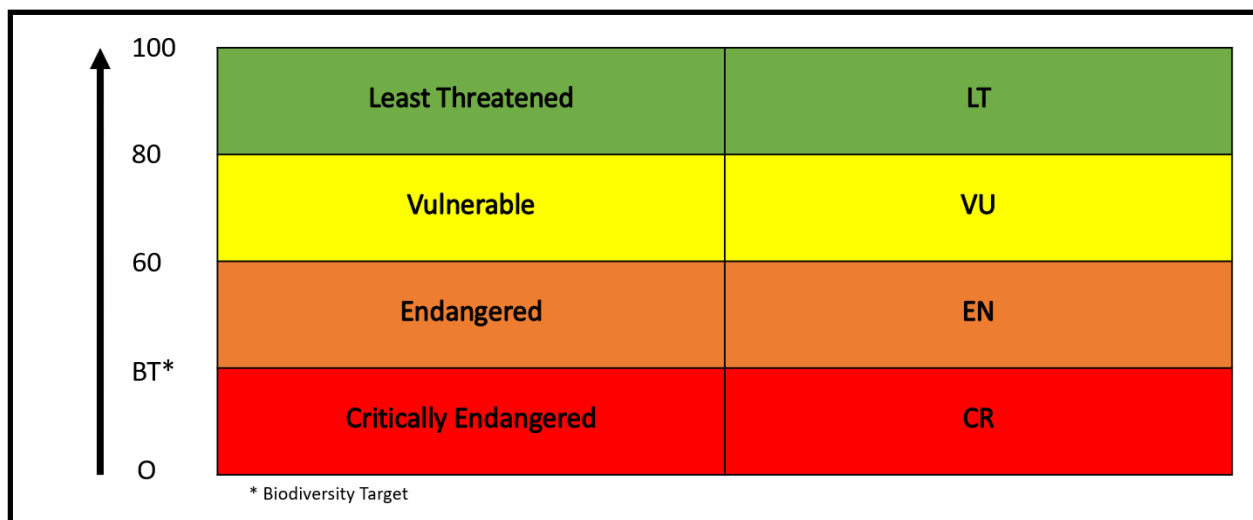
Rating of likelihood	Definition
<b>LOW</b>	No suitable habitats on site / habitats on site do not match habitat description for species;
<b>MEDIUM</b>	Habitats on site match general habitat description for species (e.g., grassland), but detailed microhabitat requirements (e.g., rocky grassland on shallow soils overlying dolomite) are absent on the site or are unknown from the descriptions given in the literature or from the authorities;
<b>HIGH</b>	Habitats found on site match very strongly the general and microhabitat description for the species (e.g., rocky grassland on shallow soils overlying dolomite);
<b>DEFINITE</b>	Species found on site.

## 2.2 Protected trees

Regulations published for the National Forests Act (Act 84 of 1998) as amended, provide a list of protected tree species for South Africa. The species on site and surrounding the site was checked against the list provided. The protected species list was also referenced against historical recorded data for the quarter degree grit cell to see if any of the species have been recorded historically.

## 2.3 Protected ecosystems

A literature review was conducted to investigate previous vegetation classification studies carried out on / near the study site. These studies were investigated before the field visit. To describe broad vegetation patterns within the study area, Mucina and Rutherford (2006) were used. To describe the conservation status of the vegetation units occurring within the study area, Mucina and Rutherford (2006), the National List of Ecosystems that need Protection (NEMBA, 2004) and the method described in Strelitzia 17 (Driver et al., 2005) were used. This method classifies vegetation types into four categories, according to the percentage of untransformed natural habitat remaining (See Figure 1).



**Figure 1: Classifications of vegetation types in accordance with their ecological status (Driver et al., 2005).**

A survey was conducted on rare and protected plants that might possibly occur in the study area. For this investigation in the South African National Biodiversity Institute (SANBI) website and databases were consulted. The possible and actual presence of rare and protected species were recorded during the field visit.

## 2.4 Sensitivity Analysis

The location of potentially sensitive features in the study area was determined by taking the following into consideration:

- Satellite imagery/Google Earth imagery was used to determine natural state of land cover against areas already transformed.
- Habitat in which sensitive plants occur was deemed as sensitive.

Sensitivity rating intensities are given in Table 3 below. Areas containing untransformed natural vegetation of conservation concern, high diversity or habitat complexity, Red List organisms or systems vital to sustaining ecological functions are considered potentially sensitive. In contrast, any transformed area that has no importance for the functioning of ecosystems is considered to potentially have low sensitivity.

**Table 3: Explanation of sensitivity ratings.**

Rating	Factors contributing to sensitivity	Examples of qualifying features
VERY HIGH	<p>Indigenous natural areas that are highly positive for any of the following:</p> <ul style="list-style-type: none"> <li>• <u>Presence of threatened species</u> (Critically Endangered, Endangered, Vulnerable) and/or habitat critical for the survival of populations of threatened species.</li> <li>• <u>High conservation status</u> (low proportion remaining intact, highly fragmented, habitat for species that are at risk).</li> <li>• <u>Protected habitats</u> (areas protected according to national / provincial legislation, e.g., National Forests Act, Draft Ecosystem List of NEM:BA, Integrated Coastal Zone Management Act, Mountain Catchment Areas Act, Lake Areas Development Act)</li> </ul>	<ul style="list-style-type: none"> <li>• CBA 1 areas.</li> <li>• Remaining areas of vegetation type listed in Ecosystem List of NEM: BA as Critically Endangered, Endangered or Vulnerable.</li> <li>• Protected forest patches.</li> <li>• Confirmed presence of populations of threatened species.</li> </ul>
HIGH	<p>Indigenous natural areas that are positive for any of the following:</p> <ul style="list-style-type: none"> <li>• High <u>intrinsic</u> biodiversity value (moderate/high species richness and/or turnover).</li> <li>• Presence of <u>habitat highly suitable</u> for threatened species (Critically Endangered, Endangered, Vulnerable species).</li> <li>• Moderate ability to respond to disturbance (moderate resilience, dominant species of intermediate age).</li> <li>• Moderate conservation status (moderate proportion remaining intact, moderately fragmented, habitat for species that are at risk).</li> <li>• Moderate to high value ecological goods &amp; services (e.g., water supply, erosion control, soil formation,</li> </ul>	<ul style="list-style-type: none"> <li>• CBA 2 “critical biodiversity areas”.</li> <li>• Habitat where a threatened species could potentially occur (habitat is suitable, but no confirmed records).</li> <li>• Confirmed habitat for species of lower threat status (near threatened, rare).</li> <li>• Habitat containing individuals of extreme age.</li> <li>• Habitat with low ability to recover from disturbance.</li> <li>• Habitat with exceptionally high diversity (richness or turnover).</li> <li>• Habitat with unique species composition and narrow distribution.</li> </ul>

	<p>carbon storage, pollination, refugia, food production, raw materials, genetic resources, cultural value).</p> <p>And may also be positive for the following:</p> <ul style="list-style-type: none"> <li>Protected habitats (areas protected according to national / provincial legislation, e.g., National Forests Act, Draft Ecosystem List of NEM:BA, Integrated Coastal Zone Management Act, Mountain Catchment Areas Act, Lake Areas Development Act)</li> </ul>	<ul style="list-style-type: none"> <li>Ecosystem providing high value ecosystem goods and services.</li> </ul>
MEDIUM-HIGH	<p>Indigenous natural areas that are positive for one or two of the factors listed above, but not a combination of factors.</p>	<ul style="list-style-type: none"> <li>CBA 2 “corridor areas”.</li> <li>Habitat with high diversity (richness or turnover).</li> <li>Habitat where a species of lower threat status (e.g. (near threatened, rare) could potentially occur.</li> </ul>
MEDIUM	<p>Other indigenous natural areas in which factors listed above are of no particular concern. May also include natural buffers around ecologically sensitive areas and natural links or corridors in which natural habitat is still ecologically functional.</p>	N/A
MEDIUM-LOW	<p>Degraded or disturbed indigenous natural vegetation. May also include secondary vegetation in an advanced stage of development in which habitat is still ecologically functional.</p>	N/A
LOW	<p>No natural habitat remaining.</p>	N/A

## 2.5 Impact Assessment

The potential environmental impacts can be identified and evaluated according to their severity, duration, extent, and significance. The following sections will describe the various aspects in detail.

### 2.5.1 Impact Significance = **Consequence** x **Likelihood**

Environmental Significance (Impact)	Description
L (1 – 4.9)	<b>Low</b> environmental significance
LM (5 - 9.9)	<b>Low to medium</b> environmental significance
M (10 – 14.9)	<b>Medium</b> environmental significance
MH (15 – 19.9)	<b>Medium to high</b> environmental significance
H (20 – 25)	<b>High</b> environmental significance. Likely to be a fatal flaw.

The confidence level (the specialist's degree of confidence in the predictions and/or the information on which it is based will be ranked Low, Medium, or High.

The consequence can be determined as follows:

$$\text{Consequence (C)} = \frac{(\text{Severity} + \text{Duration} + \text{Extent})}{3}$$

### 2.5.2 Severity Assessment and Rating

Rating	Description
1	Negligible / non-harmful / minimal deterioration (0 – 20%)
2	Minor / potentially harmful / measurable deterioration (20 – 40%)
3	Moderate / harmful / moderate deterioration (40 – 60%)
4	Significant / very harmful / substantial deterioration (60 – 80%)
5	Irreversible / permanent / death (80 – 100%)

### 2.5.3 Duration Assessment and Rating

Rating	Description
1	Less than 1 month / quickly reversible
2	Less than 1 year / quickly reversible
3	More than 1 year / reversible over time
4	More than 10 years / reversible over time / life of project or facility

5	Beyond life of project of facility / permanent
---	--

#### 2.5.4 Extent Assessment and Rating

Rating	Description
1	Within immediate area of activity
2	Surrounding area within project boundary
3	Beyond project boundary
4	Regional / provincial
5	National / international

$$\text{Likelihood (L)} = \frac{(\text{Frequency} + \text{Probability})}{2}$$

#### 2.5.5 Frequency Assessment and Rating

Rating	Description
1	Less than once a year
2	Once in a year
3	Quarterly
4	Weekly
5	Daily

#### 2.5.6 Probability Assessment and Rating

Rating	Description
1	Almost impossible
2	Unlikely
3	Probable
4	Highly likely
5	Definite

### 3. THE STUDY SITE

#### 3.1 Locality

The study site is located approximately halfway between Leandra and Kinross on the R29. It is located on the remainder of Portion 2 of the Farm Uitmalkaar 126-IR. The site is accessible from the R29.

The study area falls within the Mpumalanga Province. It is furthermore situated within the 2629AC Quaternary Degree Square (QDS).

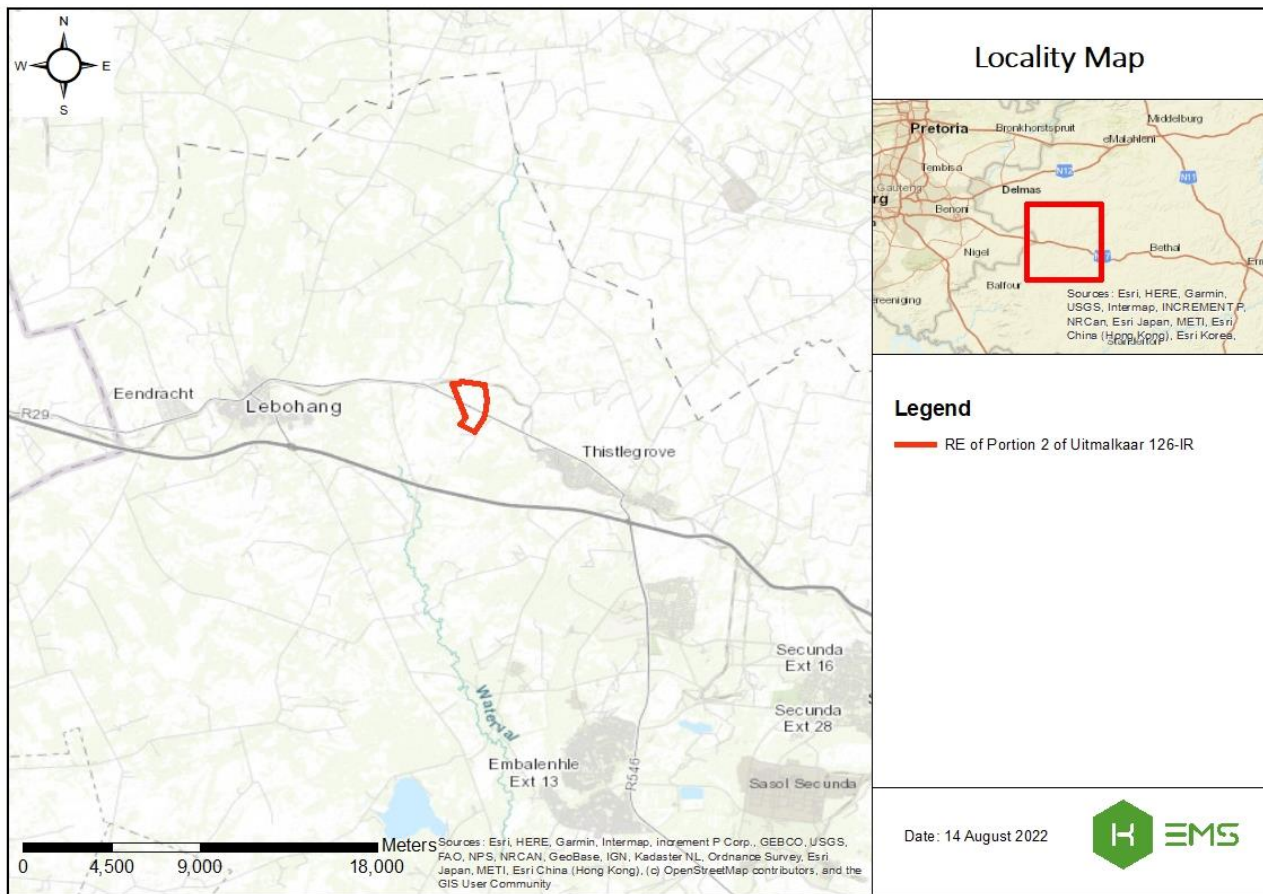
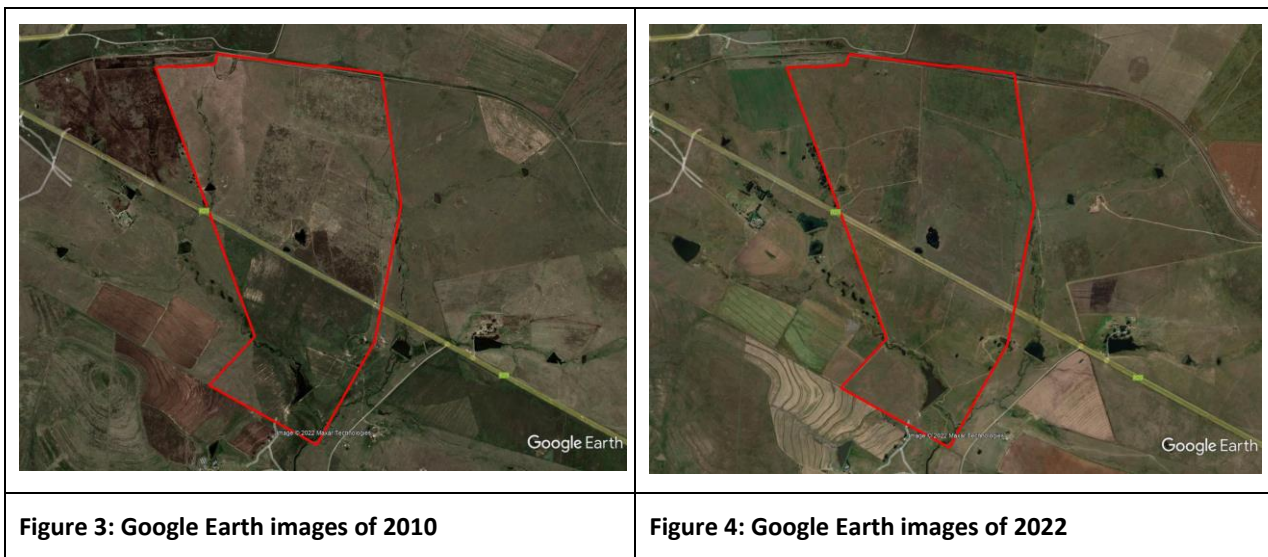


Figure 2: Study site in red.

### 3.2 Current Land Use

The site under is situated in natural areas where a significant part has historically been used for cultivation. Historical Google earth images compared to recent once indicate the character of the sites. Figure 3 and 4 below indicates the historical map compares to the current map. Various areas around the proposed sites have been transformed due to agriculture and specifically cultivation. Most of the cultivation activities transformed the original extent of the vegetation type. Vegetation regrowth on site is more than 10 years old and therefore will be seen as indigenous vegetation as per the definition contained in the EIA regulations.



An overhead power line run through the site from north to west. A drainage way and dam are also present on site.



**Figure 5: Land use characteristics of the site.**



### 3.3 Regional Vegetation and Environmental Parameters

The study area situated in the Grassland Biome. Mucina and Rutherford described the vegetation as Soweto Highveld Grassland (Figure 6).

#### 3.3.1 Regional Vegetation

Gently to moderately undulating landscape on the Highveld plateau supporting short to medium-high, dense, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. In places not disturbed, only scattered small wetlands, narrow stream alluvia, pans and occasional ridges or rocky outcrops interrupt the continuous grassland cover.

In terms of Mucina and Rutherford (2006), the vegetation unit Soweto Highveld Grassland is listed as Endangered. Soweto Highveld Grassland is listed in terms of the 2011 National list of ecosystems that are threatened and in need of protection (GN. No. 1002 of 2011) as Vulnerable.

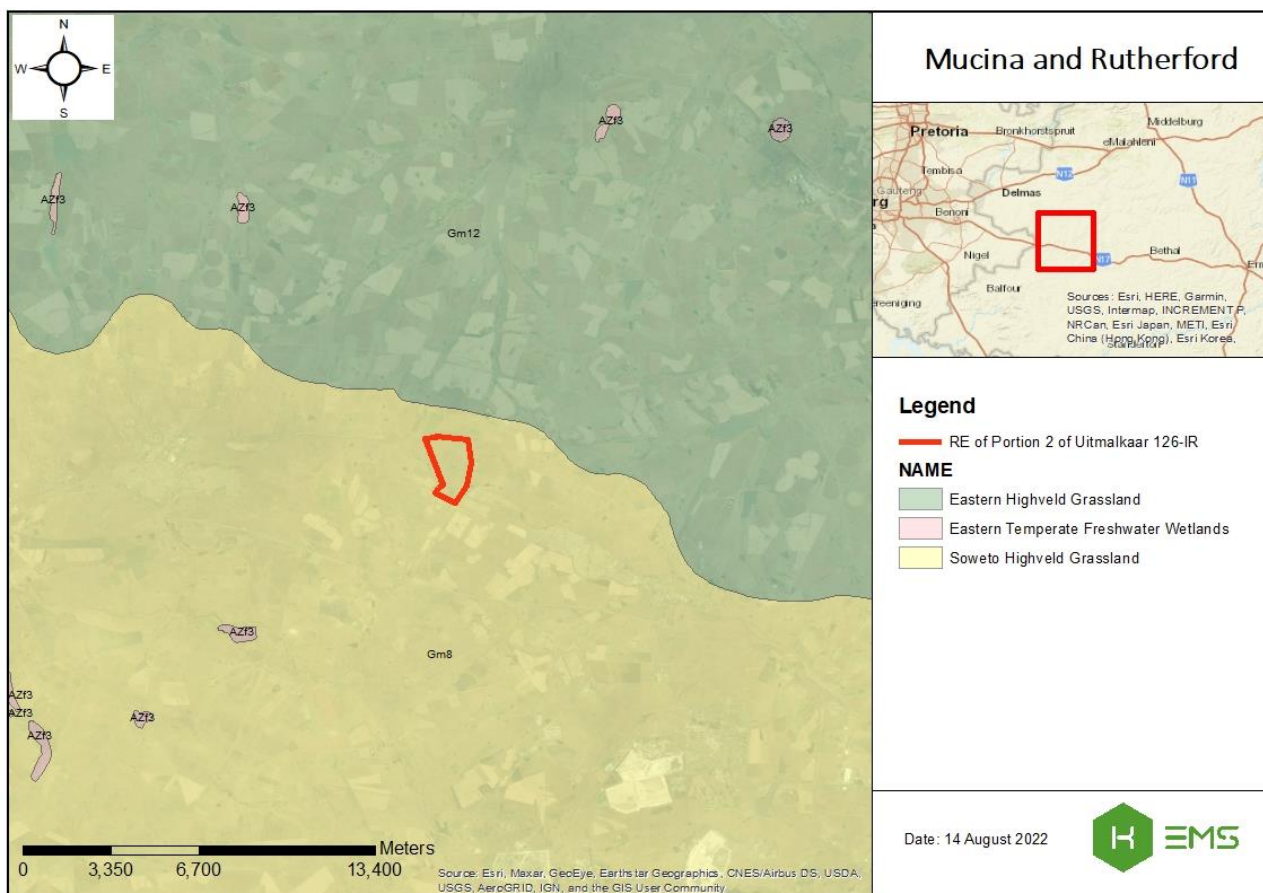


Figure 6: Vegetation unit in terms of Mucina and Rutherford (2006).

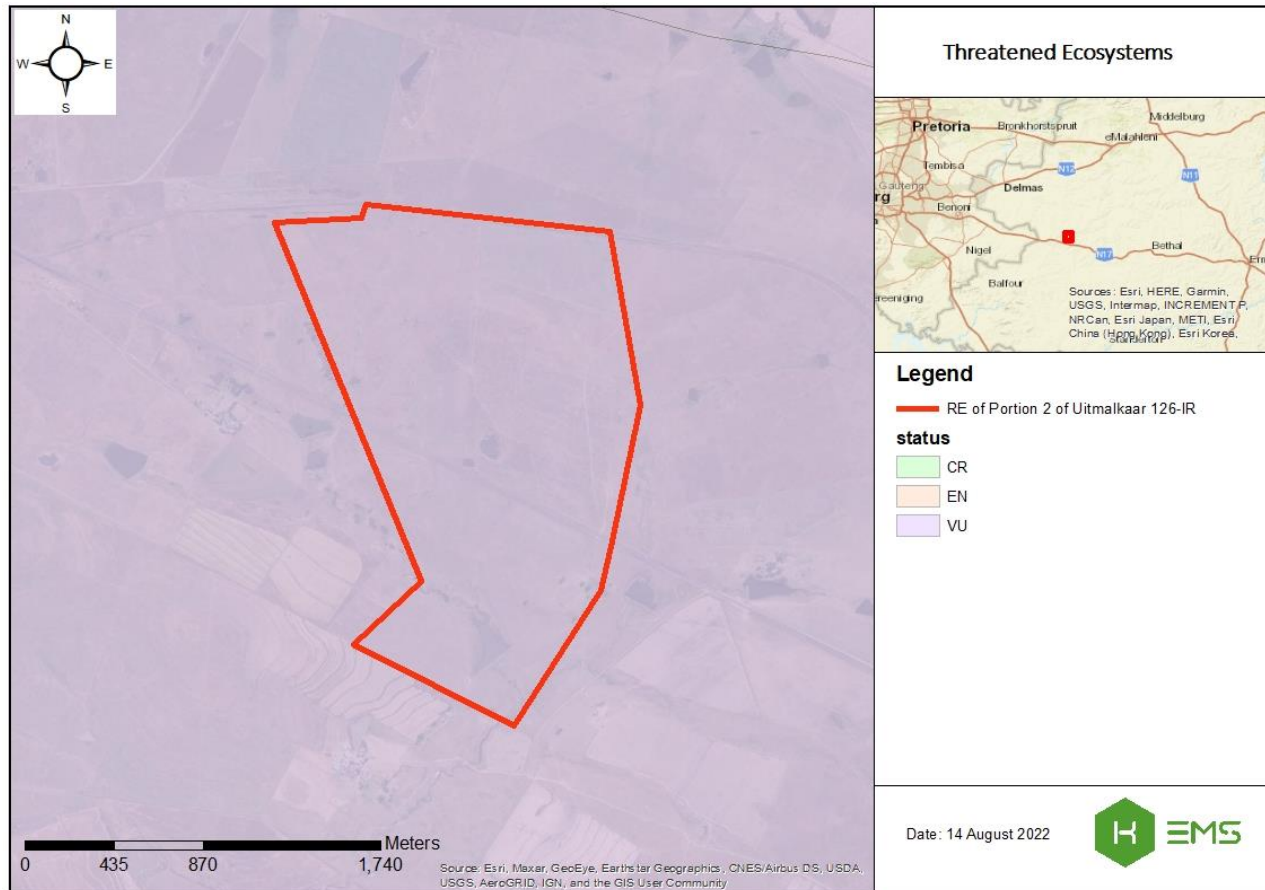


Figure 7: Threatened Ecosystem status in terms of GN 1002.

### 3.3.2 General Climate

Summer-rainfall region (MAP 662 mm). Cool-temperate climate with thermic continentality (high extremes between maximum summer and minimum winter temperatures, frequent occurrence of frost, large thermic diurnal differences, especially in autumn and spring)

### 3.3.3 Geology

Shale, sandstone, or mudstone of the Madzaringwe Formation (Karoo Supergroup) or the intrusive Karoo Suite dolerites which feature prominently in the area. In the south, the Volksrust Formation (Karoo Supergroup) is found and in the west, the rocks of the older Transvaal, Ventersdorp and Witwatersrand Supergroups are most significant. Soils are deep, reddish on flat plains and are typically Ea, Ba and Bb land types.

### 3.4 Regional conservation assessments

The Mpumalanga Biodiversity Conservation Plan (MBCP) is a tool used to determine the regional conservation within the Mpumalanga province. It aims to identify patterns and processes that are important for maintaining biodiversity. The MBCP identifies Critical Biodiversity Areas (CBAs) at different hierarchical levels, which are terrestrial and aquatic features in the landscape that are critical for conserving biodiversity and maintaining ecosystem functioning. The MBCP identifies CBAs at different levels with decreasing biodiversity importance, as follows:

1. Protected areas.
2. Irreplaceable areas.
3. Highly significant areas.
4. Important and necessary areas.
5. Least concern areas.
6. No natural habitat remaining areas.

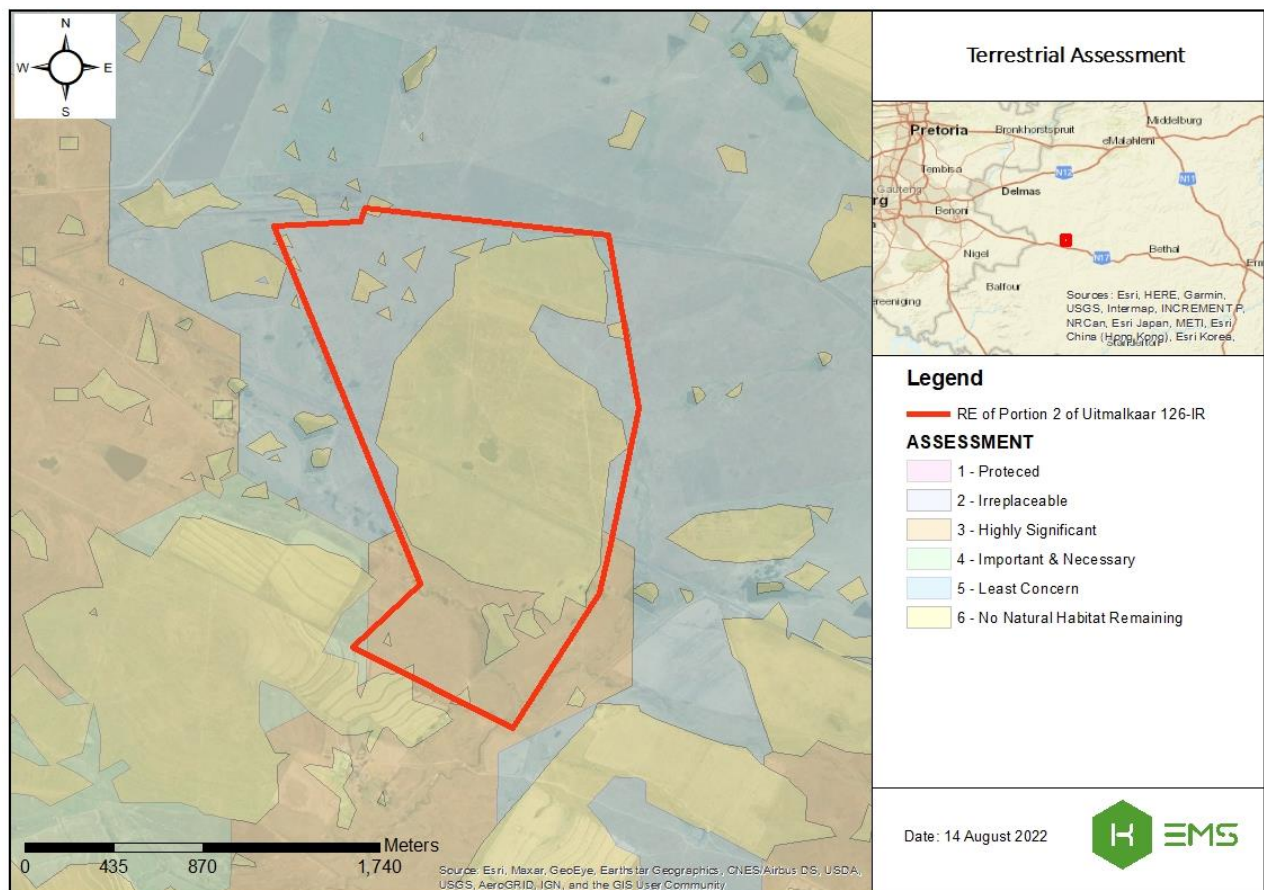
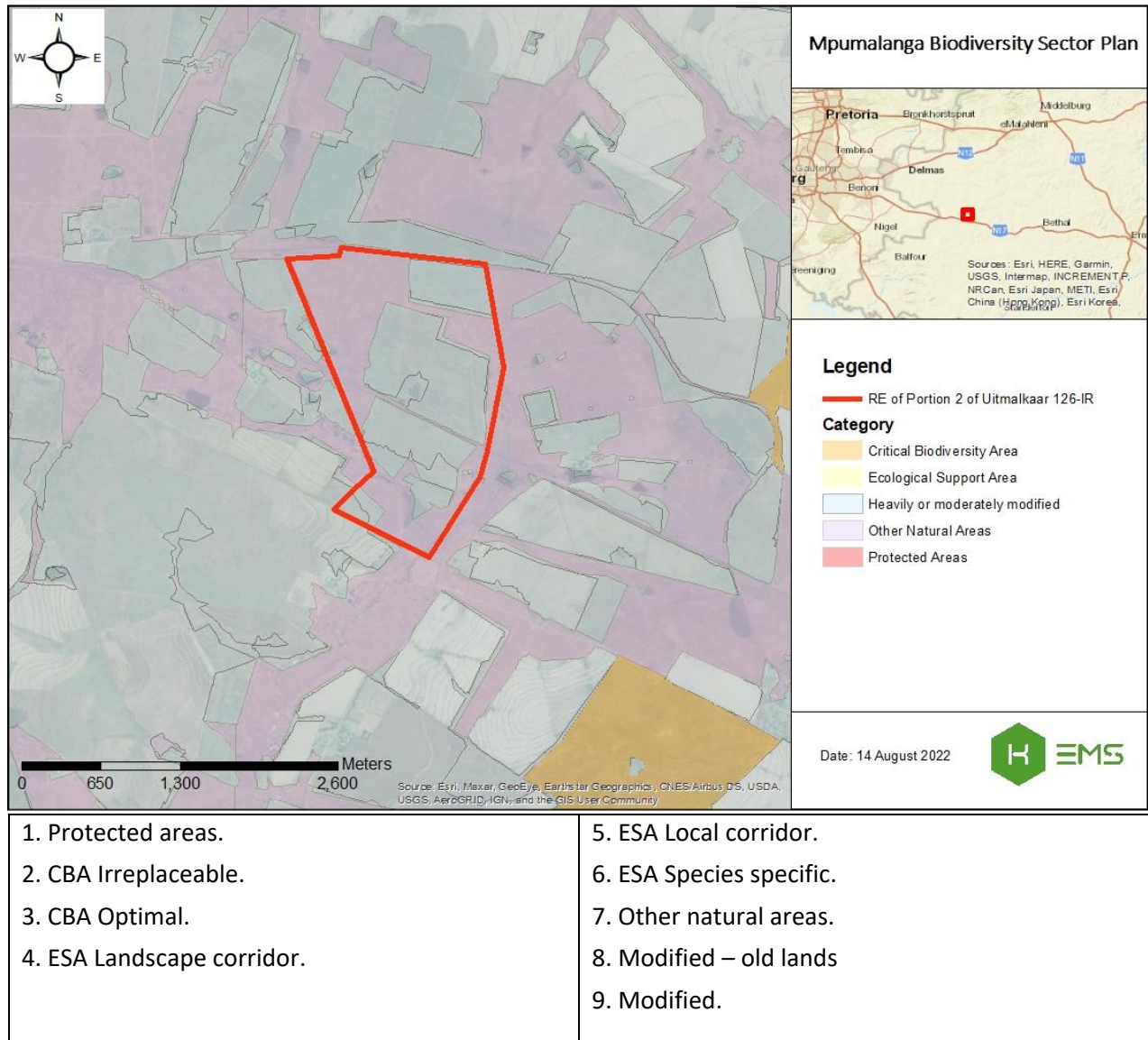


Figure 8: Conservation value of the study area (MBCP).

Within and around the study area, the MBCP identifies CBAs at four levels that occur within the study area and that may be affected by the proposed project. Habitat on site is classified according to the MBCP primarily as “No natural habitat remaining”, “Least concern”, “Important & necessary” and as “irreplaceable”. A very recent update to the MBCP was produced, called the Mpumalanga Biodiversity Sector Plan 2013 (MBSP2013). The MBSP2013 identifies CBAs at different levels with decreasing biodiversity importance, as follows and presented in Figure 9:



**Figure 9: Sector conservation value of the study area (MBSP)**

### 3.5 National Biodiversity Assessment

The National Biodiversity Assessment (NBA) is the primary tool for monitoring and reporting on the state of biodiversity in South Africa. It is used to inform policies, strategies, and actions in a range of sectors for managing and conserving biodiversity more effectively. According to the NBA (2018) (remaining extent) majority of the study site is not considered in need of protection. The little remaining vegetation within the study site worthy of consideration is classified as being Not Protected (NP) with a threat status of vulnerable (V). It must also be noted that the Vegetation type have been adopted into the List of Threatened ecosystems in need of protection (GN1002 of 2011) as Vulnerable.

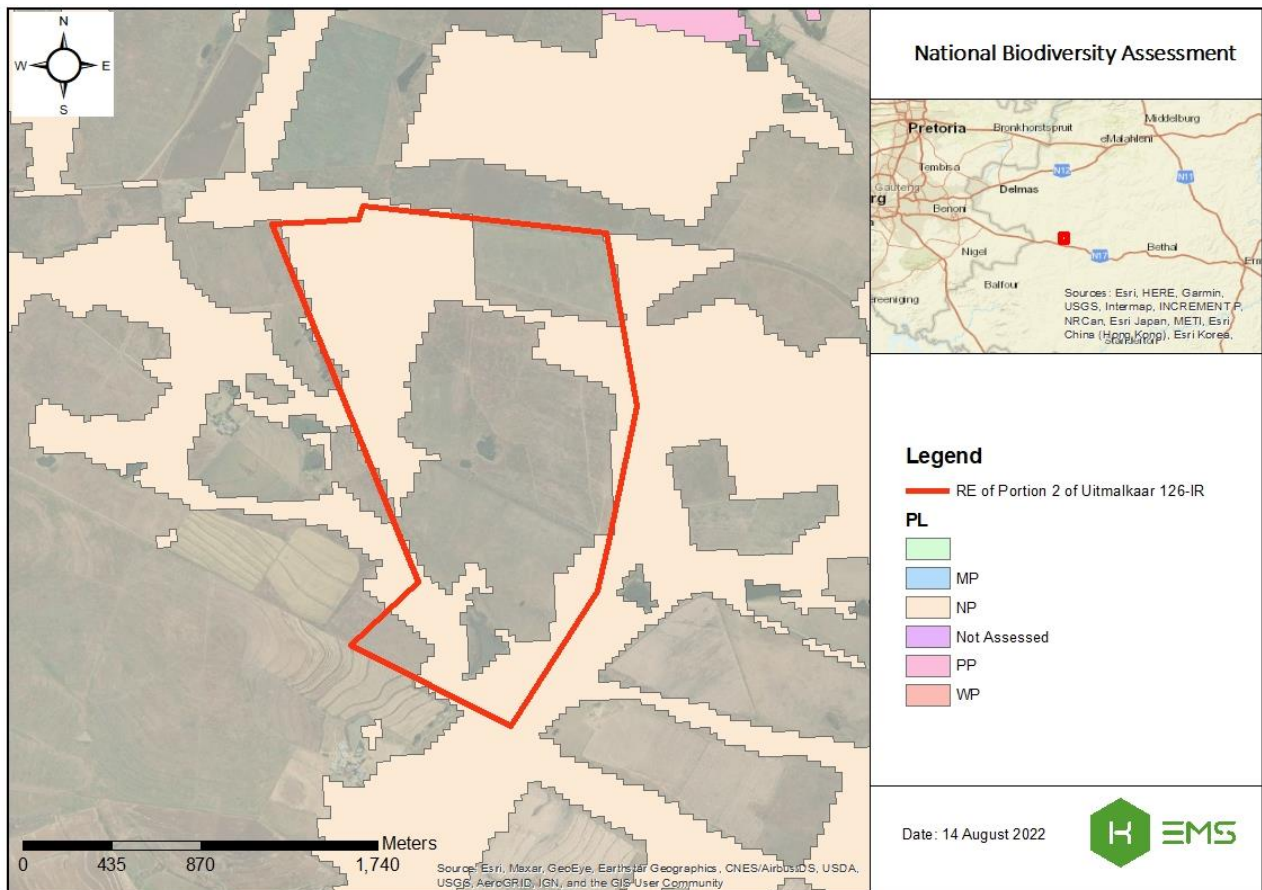


Figure 10: National Biodiversity Assessment indicating Not Protected



- “a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions”

NEMA states that “the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people’s common heritage”.

### ***National Environmental Management: Biodiversity Act (NEMBA), 10 of 2004***

In terms of NEMBA, the developer has a responsibility for:

- The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations),
- Promotion of the application of appropriate environmental management tools to ensure integrated environmental management of activities thereby ensuring that all development within the area is in line with ecological sustainable development and protection of biodiversity, and
- Adhering to all regulations and legislation promulgated because of the National Environmental Management: Biodiversity Act (NEMBA), 10 of 2004.

Furthermore, a person may not carry out a restricted activity involving a specimen of a listed threatened or protected species without a permit issued as per Chapter 7 of NEMBA.

### ***Alien and Invasive Species Regulations, 2014 (NEMBA)***

Alien and Invader plant species in South Africa are categorised according to one of the following categories:

- Prohibited Species: May not be introduced into the country.
- Category 1a Listed Invasive Species: those species that must be combatted or eradicated.
- Category 1b Listed Invasive Species: those species that must be controlled.
- Category 2 Listed Invasive Species: those species that require a permit to carry out a restricted activity within an area, as specified in the act / regulations.
- Category 3 Listed Invasive Species: those species that are subject to certain exemptions and prohibitions, as specified in the act / regulations.

***National Water Act, 36 of 1998***

The National Water Act provides for the protection of water resources, including protecting aquatic and associated ecosystems and their biodiversity and reducing and preventing pollution and degradation of water resources.

***National Forests, 1998 (Act No. 84 of 1998)***

The protection, sustainable management and use of forests and trees within South Africa are provided for under the National Forests Act, 1998 (Act No. 84 of 1998). Government Gazette No 26731 of August 2004, and any later revisions as released, provides a list of tree species protected under the National Forests Act.

***National List of Ecosystems that are threatened and in need of Protection, No 1002 of 2011.***

A national list of threatened terrestrial ecosystems and provides supporting information to accompany the list, including the purpose and rationale for listing ecosystems, the criteria used to identify listed ecosystems, the implications of listing ecosystems, and summary statistics and national maps of listed terrestrial ecosystems. It also includes individual maps and detailed information for each listed ecosystem.

***Requirements for Assessing and Mitigating Environmental Impacts of Development Applications***

These guidelines have been developed by the Mpumalanga tourism and Park's agency in collaboration with the Mpumalanga Parks Board to promote national environmental standards in all Environmental reports.

The Mpumalanga Biodiversity Conservation Plan (MBCP) indicates areas classified as:

- Irreplaceable,
- Highly Significant,
- Important and Necessary,
- Ecological Corridors necessary for the conservation of Biodiversity.

The MBCP should be consulted for background on the conservation value of land and areas of sensitivity within the Mpumalanga Province.

In terms of the requirements as set out above, specific sections have been developed for various parts of Biodiversity conservation including requirements for Fauna, Flora, wetlands, and the usage of water and



for aquatic ecosystems. These guidelines and requirements aim to facilitate the conservation of protected species and to ensure that assessments are conducted in accordance with statutory requirements and best environmental practices.

According to these requirements for plant communities/ vegetation assessments, the following is recommended for vegetation assessments in Mpumalanga:

- A map indicating the total transformed/ disturbed area on the property. Another map will be needed to indicate vegetation types and sensitive areas on the property, with a buffer area of 30 metres around any sensitive areas.
- A list of all potential Threatened Plant Species (TPS) / Red list species that occur in the area.
- A floristic (plant) survey must be conducted during the growing season of all species that may potentially occur (this may require more than one season's survey to identify flowering species) with two (2) visits undertaken (November & February). Visits during other seasons will be determined by the flowering and fruiting times of species that do not occur during the summer.
- The MPB should be supplied with a list of all plant taxa (family groups) encountered during the survey, including threatened species (Red Data listed), medicinal species, protected species (Mpumalanga Conservation Act, 1989) and endemic (confined to the area) taxa. The MPB will be able to assist with species of concern, once supplied with the full list of plant taxa.
- Plants surveyed that may be of conservation importance, should be identified down to species level.
- The threatened species list supplied to the MTPA must include their locality; date surveyed GPS location, spatial resolution, and distribution, including actual numbers where possible.
- A list of threatened species that occur on the potential list, but not found during site visits should be provided separately. This happens with annuals that might not be detected initially). Regarding such species, a qualified opinion of the likelihood of that species occurring on the site or not, and the reason for the opinion, should be provided.
- A list of alien plant species occurring on the property should be provided.
- The invasion extent of Category 1 & 2 plants (CARA: Act 43 of 1983 – Regulation 15, well as new NEMA regulations regarding aliens and invasive) should be investigated.
- Existing and / or planned eradication programs of alien vegetation should be indicated in the report.

- Relocation plan for plants of conservation importance should be included and relocation should be done by specialists with expertise in environmental concern (EIA Guideline document). Plant species of conservation importance include the following:
  - Species Endemic to the Province (refer to National Botanic Institute).
  - Red Data Listed Plants (Based on the MTPA proposed list).
  - Medicinal Plants (consult recent subject literature).
  - Protected plants (Mpumalanga Conservation Legislation and National Forest Act).

### ***Mpumalanga Nature Conservation Act 10 of 1998***

The Mpumalanga Nature Conservation Act contains provincial protected species as identified in Section 69 (Chapter 6) of the Act. The Act makes provision for two Schedules namely Schedule 11 and Schedule 12 included in the Act that contains all species listed as protected under this Act. Although this Act focuses on the picking of protected plants, it is assumed that relocation of plants will also require a permit as stipulated in this Act.

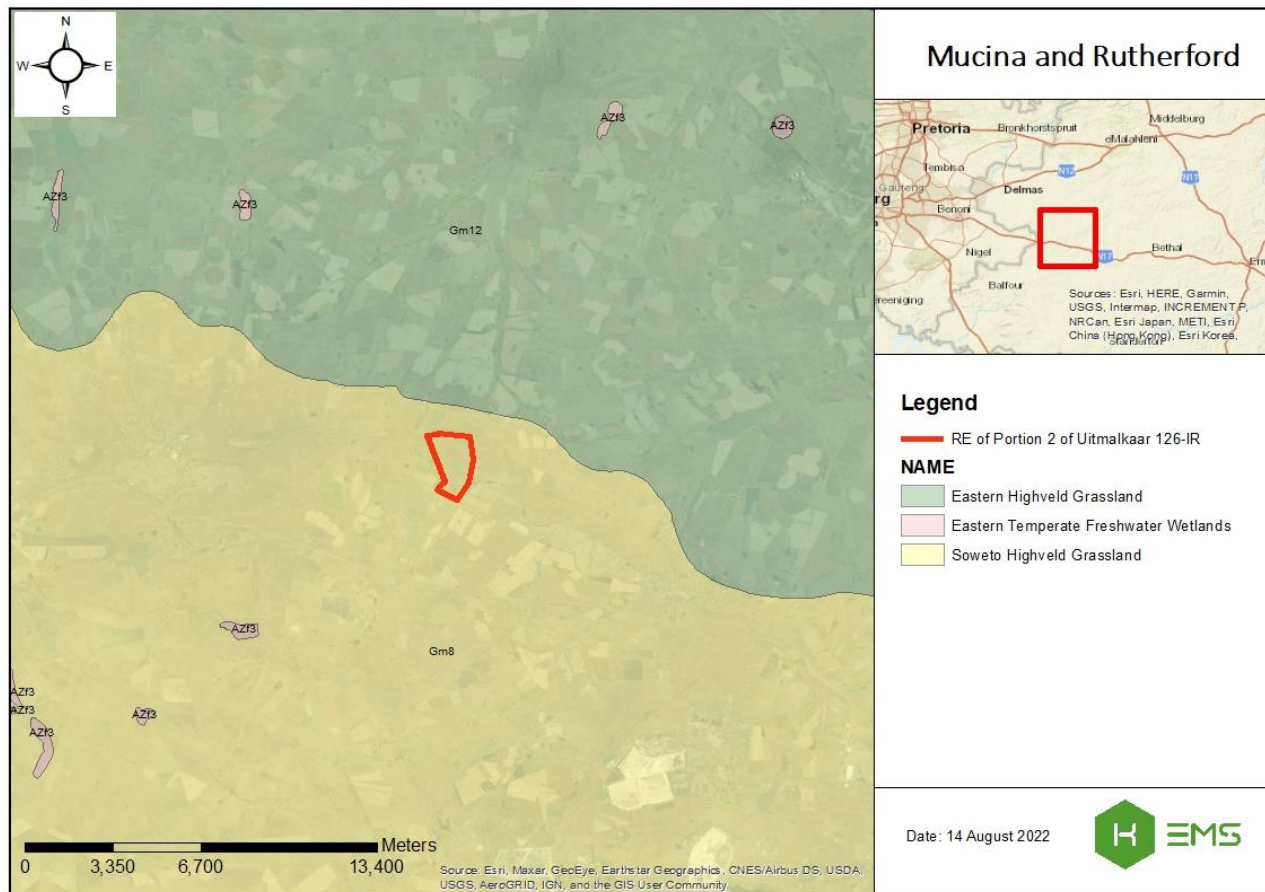
### ***National Biodiversity Assessment***

The National Biodiversity Assessment (NBA) is the primary tool for monitoring and reporting on the state of biodiversity in South Africa. It is used to inform policies, strategies, and actions in a range of sectors for managing and conserving biodiversity more effectively. According to the NBA (2018) (remaining extent) majority of the study site is not considered in need of protection.

## 4 RESULTS AND EVALUATION

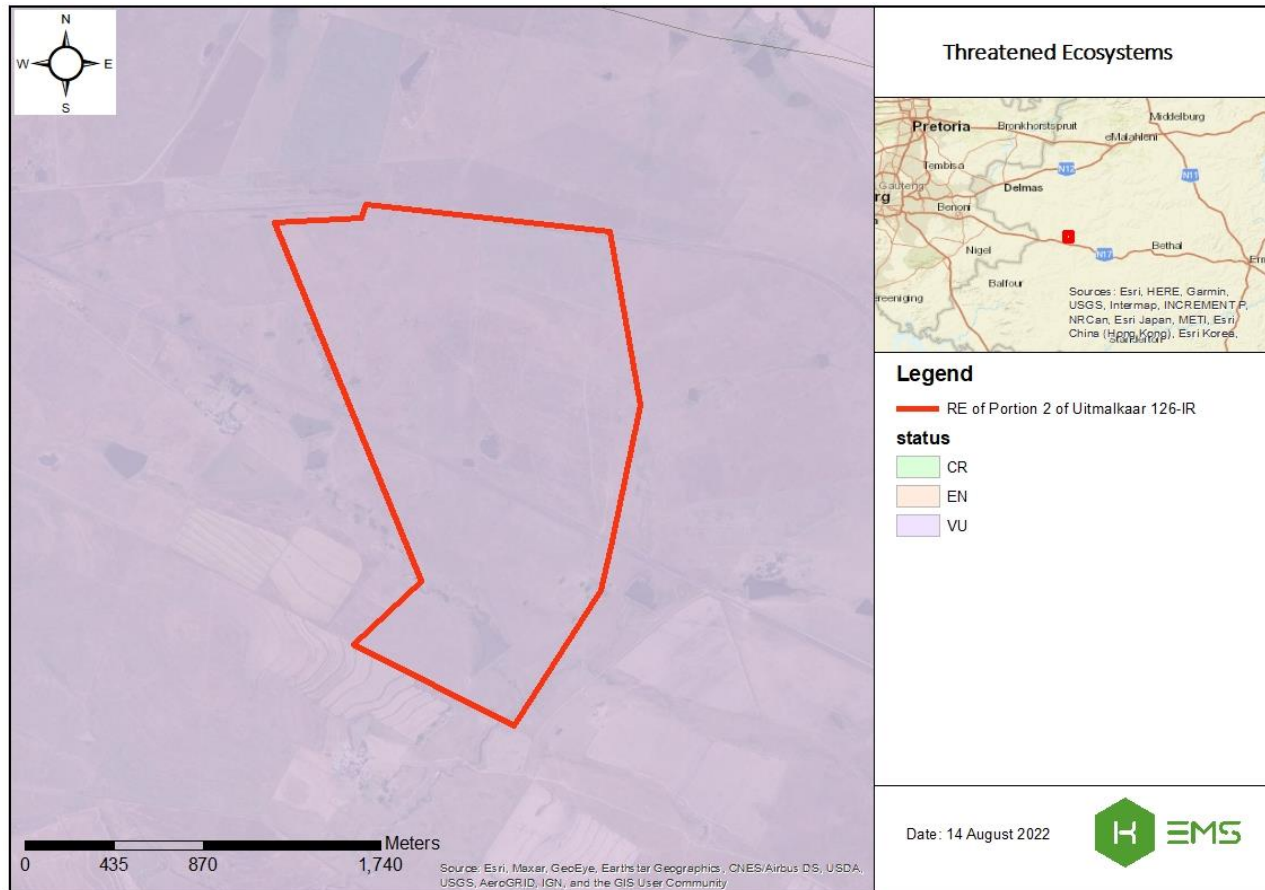
### 4.1 Broad vegetation types

Gently to moderately undulating landscape on the Highveld plateau supporting short to medium-high, dense, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. In places not disturbed, only scattered small wetlands, narrow stream alluvia, pans and occasional ridges or rocky outcrops interrupt the continuous grassland cover.



**Figure 12: Vegetation Unit of the study site from Mucina and Rutherford (2006).**

The Vegetation Type is furthermore listed as Vulnerable in the 2011 National List of Ecosystems that are threatened and in need of protection (DEA, 2011). This classification was adopted in the 2018 Terrestrial biodiversity Assessment.



**Figure 13: Threatened Ecosystem status**

A list of expected common and dominant species in undisturbed vegetation includes the following (those with a "d" are dominant) A list of expected common and dominant species in undisturbed vegetation includes the following (those with a "d" are dominant).

**Graminoids:** *Andropogon appendiculatus* (d), *Brachiaria serrata* (d), *Cymbopogon pospischilii* (d), *Cynodon dactylon* (d), *Elionurus muticus* (d), *Eragrostis capensis* (d), *E. chloromelas* (d), *E. curvula* (d), *E. plana* (d), *E. planiculmis* (d), *E. racemosa* (d), *Heteropogon contortus* (d), *Hyparrhenia hirta* (d), *Setaria nigrirostris* (d), *S. sphacelata* (d), *Themeda triandra* (d), *Tristachya leucothrix* (d), *Andropogon schirensis*, *Aristida adscensionis*, *A. bipartita*, *A. congesta*, *A. junciformis* subsp. *galpinii*, *Cymbopogon caesius*, *Digitaria diagonalis*, *Diheteropogon amplexans*, *Eragrostis micrantha*, *E. superba*, *Harpochloa falx*, *Microchloa caffra*, *Paspalum dilatatum*.

**Herbs:** *Hermannia depressa* (d), *Acalypha angustata*, *Berkheya setifera*, *Dicoma anomala*, *Euryops gilfillanii*, *Geigeria aspera* var. *aspera*, *Graderia subintegra*, *Haplocarpha scaposa*, *Helichrysum miconiifolium*, *H. nudifolium* var. *nudifolium*, *H. rugulosum*, *Hibiscus pusillus*, *Justicia anagalloides*, *Lippia scaberrima*, *Rhynchosia effusa*, *Schistostephium crataegifolium*, *Selago densiflora*, *Senecio coronatus*, *Vernonia oligocephala*, *Wahlenbergia undulata*.

**Geophytic Herbs:** *Haemanthus humilis* subsp. *hirsutus*, *H. montanus*.

**Herbaceous Climber:** *Rhynchosia totta*.

**Low Shrubs:** *Anthospermum hispidulum*, *A. rigidum* subsp. *pumilum*, *Berkheya annectens*, *Felicia muricata*, *Ziziphus zeyheriana*.

## 4.2 Vegetation of the Study Area

### 4.2.1 Habitat analysis

For the analysis of the study area, satellite imagery was used to identify areas clearly visibly transformed. Transformed areas for this study site comprises of areas no longer representing natural species and includes gardens, cultivated lands due to farming, existing infrastructure, residential areas, alien and invasive species, businesses, recreational facilities, and tourist attractions. Areas not historically transformed is marked as primary vegetation. Figure 14 below illustrates the transformed areas in purple and natural areas in green as seen from Google earth, as well as areas identified as transformed form the site visit.



**Figure 14: Habitat Assessment**