

**APPLICATION TO RECTIFY UNLAWFUL COMMENCEMENT OR  
CONTINUATION OF LISTED ACTIVITIES IN TERMS OF SECTION 24G OF  
THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT (NO 107 OF  
1998) ON A PART OF THE FARM CANFORD CLIFFS NO.133, FREE  
STATE PROVINCE.**

(REF.: S24G/4(i),27,12/20/05)

**ENVIRONMENTAL IMPACT ASSESSMENT REPORT &  
ENVIRONMENTAL MANAGEMENT PROGRAM**

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## 1. INTRODUCTION

REC Services (Pty) Ltd. (REC) was appointed by SOETVELDE FEEDLOT CC, for:  
Unlawful construction of feedlot facilities on a part of the Farm Canford Cliffs No.133, Free State Province.

The nearest town to the farm is Parys, Free State Province, about 17 km to the southwest, but the farm itself is located just close the border of the Free State Province.

Coordinates:

Longitude: -26.806143°S Latitude: 27.547710°E

The following project description was provided by the applicant of what will be developed on site:

The activity that has commenced involves the construction of feedlot infrastructure. This includes the construction of storage facilities, railing and enclosures for Pens, feeding and water infrastructure.

The farm's total area is 254.32Ha. SOETVELDE FEEDLOT CC constructed the feedlot operations before June 2018 and went into operation 5 months later.

All the above buildings and buildings constructed after June 2018 and until May 2021, can be seen in **Error! Reference source not found..**



Figure 1: Progression of events from after June 2018 to now.

This development has therefore triggered the following listed activities:

<b>R. 327, 7 APRIL 2017- Listing Notice 1: Basic assessment Activities</b>	
<b>Activity No</b>	<b>Listed Activity Description:</b>
4	The development and related operation of facilities or infrastructure for the concentration of animals in densities that exceed - (i) 20 square metres per large stock unit and more than 500 units per facility.
12	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except 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.
<b>R. 324, 7 APRIL 2017- Listing Notice 3: Basic assessment Activities</b>	
<b>Activity No</b>	<b>Listed Activity Description:</b>
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. b. Free state: ii. Within critical biodiversity areas identified in bioregional plans.

This document focuses on significant issues and management for the duration of the development's existence. The careful implementation and management of activities on site during operation is critical.

The careful implementation and management of activities on site, during the entire process of construction and operation is crucial. The management of environmental impacts is firmly based on the issues that will be identified in this report. These issues need to be addressed in a practical manner such that impact mitigation measures can be implemented.

This section of the report provides recommendations relating to the physical environment, the biological environment and the social environment.

#### 1.1 ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) AND EXPERTISE

- EAP: P.N. van der Merwe (Director)

- Expertise: Environmental Impact Assessments in Land-use and Infrastructure Development.
- Years of experience: 29. Qualifications: B.Sc. Hons. Environmental Management PU for CHE.
- EAP: Rowan van Tonder (Consultant)
  - Expertise: 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).
  - Years of experience: 13. Qualifications: M.Sc. Botany, B.Sc. (Hons.) Physical Geography - Environmental Management., B.Sc. Environmental Sciences
  - SACNASP: Pri.Sci.Nat. Reg. No.: 119204 (Environmental Sciences)

## **2. TERMS OF REFERENCE**

The terms of reference for this report are as follows:

- Site investigations and analysis of the environmental conditions;
- Public participation exercise;
- Environmental description of the terrain; and
- Analysis and description of the possible impacts of the project based on information available at hand.

## **3. BASELINE ENVIRONMENTAL DESCRIPTION**

The development footprint goes through altitudes of between 1459 metres above sea level (at its lowest point) and 1474 m.a.s.l. (at its highest point).

### **3.1 VEGETATION TYPE AND LANDSCAPE FEATURES**

The study area's vegetation type lies predominantly in the Soweto Highveld Grassland, which is found in the Mpumalanga, Gauteng, and to a very small extent also in neighbouring Free State and North-West Provinces: In a broad band roughly delimited by the N17 road between Ermelo and Johannesburg in the north, Perdekop in the southeast and the Vaal River (border with the Free State) in the south. It extends further westwards along the southern edge of the Johannesburg Dome (including part of Soweto) as far as the vicinity of Randfontein. In southern Gauteng it includes the surrounds of Vanderbijlpark and Vereeniging as well as Sasolburg in the northern Free State. Altitude 1 420-1 760 m. The landscape consists of 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 (Mucina and Rutherford, 2006).

Grass species found in the study area include *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), and *Themeda triandra* (d) (Mucina and Rutherford, 2006).

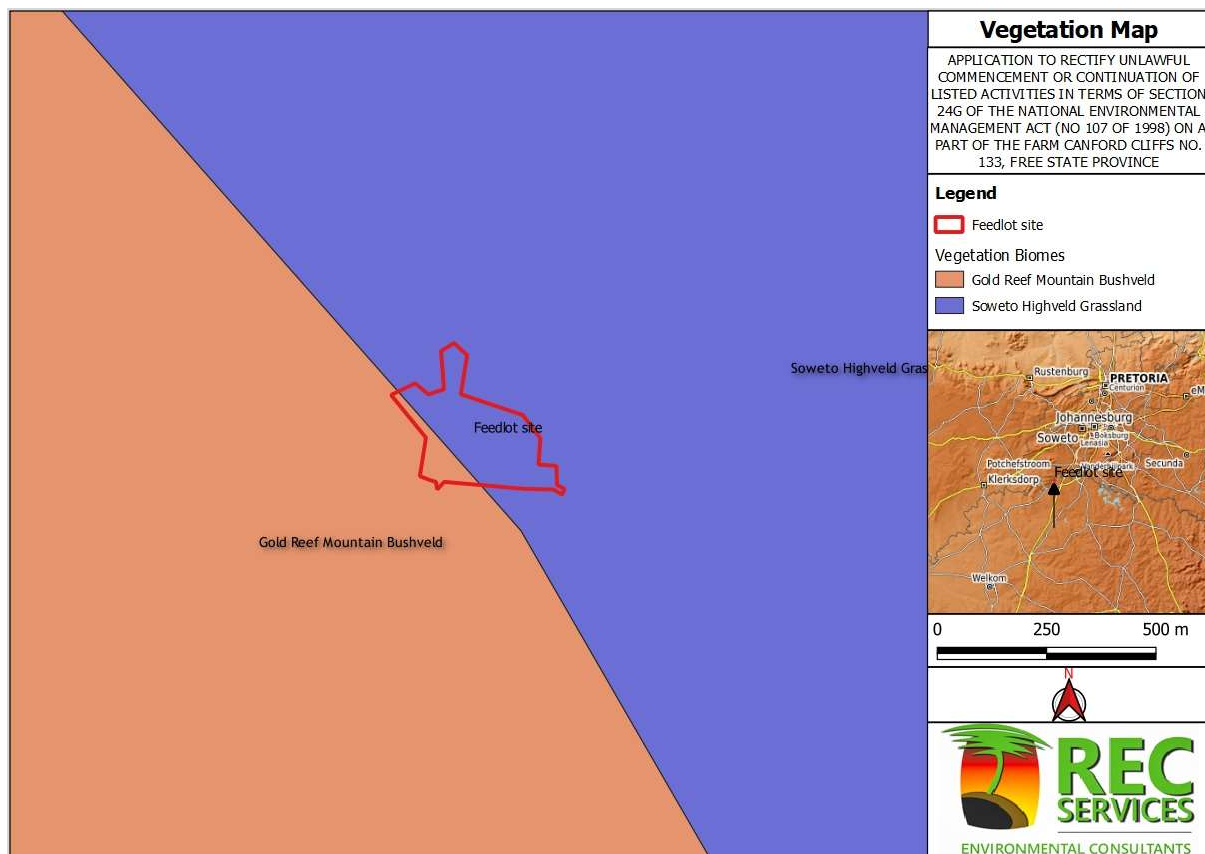


Figure 2: Vegetation type of the study area: Soweto Highveld Grassland.

A Threatened species and Species of Conservation Concern list for the Grids 2627DC (Weiveld) was obtained from the Plants of South Africa (POSA) database on the South African National Biodiversity Institute (SANBI) website. Threatened species are those that are facing high risk of extinction, indicated by the categories Critically Endangered, Endangered and Vulnerable. Species of Conservation Concern include the Threatened Species, but

additionally contain the categories Near Threatened, Data Deficient, Critically Rare, Rare and Declining. This is in accordance with the new Red List for South African Plants (Raimondo et al. 2009). However, the POSA list is based on herbarium specimens housed in the National Herbarium of SANBI; therefore, many plant species that do occur in the area are not listed.

The following possible red data plant species (by the categories Critically Endangered, Endangered and Vulnerable) could occur in the areas surrounding the study area:

- *Miraglossum laeve* Kupicha (CE).
- *Prunus africana* (Hook.f.) Kalkman (VU).

### 3.2 FAUNA OF THE STUDY AREA

The study area is natural and disturbed grassland with exotics. No Red Data Species were encountered.

#### 3.2.1 Mammals of the study area

Possible red data mammals (by the categories Critically Endangered, Endangered and Vulnerable) that would commonly occur in the wider surrounding area are:





- (Southern African) Tsessebe - *Damaliscus lunatus lunatus*
- Hartmann's Mountain Zebra - *Equus zebra hartmannae*






No Red Data Book species were recorded during the site investigations.

#### 3.2.2 Avifauna

According to available literature, approximately 303 bird species occur in the Wieveld (2627DC) quarter degree grid cell. No Red Data species were recorded. According to Taylor *et al.* (2014) and South African Bird Atlas Project 2, the following red data bird species (by the categories Critically Endangered, Endangered and Vulnerable) could occur in the wider area:

Table 1: List of possible red date avifauna on or in a wider area around the site:

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Balearica regulorum</i>	Grey Crowned Crane	
<i>Circus ranivorus</i>	African Marsh-Harrier	
<i>Falco biarmicus</i>	Lanner Falcon	
<i>Sagittarius serpentarius</i>	Secretarybird	

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Mycteria ibis</i>	Yellow-billed Stork	
<i>Pelecanus rufescens</i>	Pink-backed Pelican	
<i>Polemaetus bellicosus</i>	Martial Eagle	
<i>Hydropogone caspia</i>	Caspian Tern	
<i>Tyto capensis</i>	African Grass Owl	

### 3.2.3 Herpetofauna

No Red Data species was recorded. And no amphibians or reptiles were encountered on site. This might be due to the lack of suitable habitats or survey techniques.

**Table 2: List of herpetofauna possibly on site or rather found in the wider area:**

SCIENTIFIC NAME	COMMON NAME
<i>Sclerophrys gutturalis</i>	Guttural Toad
<i>Kassina senegalensis</i>	Bubbling Kassina
<i>Amietia delalandii</i>	Delalande's River Frog
<i>Agama atra</i>	Southern Rock Agama
<i>Dasypeltis scabra</i>	Rhombic Egg-eater
<i>Aparallactus capensis</i>	Black-headed Centipede-eater

### 3.2.4 Elements of Culture Historical Importance

During the site investigations, focus was also placed on the presence of any stone-built structure remnants, ruins, grave sites, monuments, complete built structures and the presence of artefacts. Based on preliminary observations, no cultural historical elements were found.

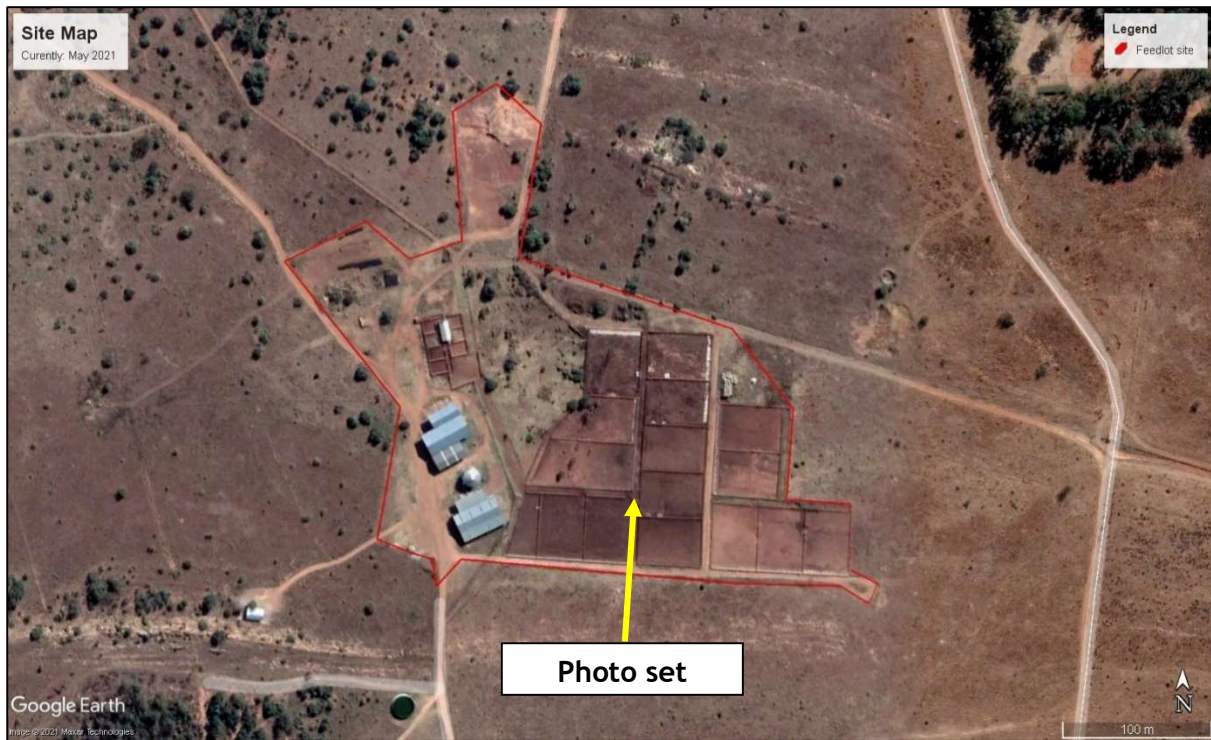
### 3.2.5 Elements of Visual and Aesthetic Importance

Visual and aesthetic elements of importance have been considered with respect to the development but will not affect the surrounding area. This due to the fact that this development falls in an agricultural setting with other agricultural entities taken place in the wider area and this is applicable to all the surrounding developments.

### 3.2.6 Site Photos

On site, a set of photos were taken in the 8 wind directions (see image below).

**Map where photos were taken:**



**Photo set:**





**View to the Northeast**



**View to the East**



View to the Southeast



View to the South





View to the Southwest



View to the West



#### **4. PUBLIC PARTICIPATION PROCESS**

The principles of the National Environmental Management Act (Act No. 107 of 1998), as amended, (NEMA) govern many aspects of rectification applications, including consultation with Interested and Affected Parties (I&APs). 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, as amended, published in terms of chapter 6 of NEMA.

##### **4.1 IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES**

The following Interested and Affected Parties (I&APs) were identified, got a Background Information Document (BID) and consulted during this process:

1. Ngwathe Local Municipality
2. Ward Councilor (Ward 7)
3. DWS
4. PHRA FS
5. All adjacent landowners

The list of key identified I&AP's includes:

- Directly adjacent landowners likely to be affected:
  - a. Savannah Africa Reserve: Farm Wooldridge 65
  - b. Farm Vaalval 158
  - c. Farm Smaldeel 132
  - d. Farm Modderfontein 86 Remainder
  - e. Farm Middel-punt 88
  - f. Farm Excelsior 271 Por. 1
  - g. Farm Excelsior 271 Por. 2
  - h. Farm Excelsior 271 Por. 3
  - i. Farm Excelsior 271 Por. 4
  - j. Farm Excelsior 271 Por. 5
  - k. Farm Excelsior 271 Por. 6
  - l. Farm Excelsior 271 Por. 7

#### 4.2 PUBLIC ANNOUNCEMENT OF THE PROJECT

The project was announced as follows:

- Publication of a media advertisement in the local newspaper called the Parys Gazette dated 09/09/2021 (please see Appendix 3C).
- One site notice advertising the S24G process was erected on site on 03/09/2021. The site notice was placed at the current main gate and road access to the premises.
- A Background Information Document (BID) was delivered (please refer to Appendix 3A for a copy of the BID) by hand and emailed to I&APs on 03/09/2021 and on 06/09/2021 (see Appendix 3B) and e-mailed to the Stakeholders on 03/05/2019. For Comment and Registration sheets received from I&APs, please see Appendix 3E.

#### 4.3 FEEDBACK FROM I&AP'S

The closing date for registration and comment delivery from I&AP's during the public participation phase was within 30 days from the date of publication of the advertisement, which was on the 09/10/2021 for the stakeholders. This period has lapsed; however, comments were still accepted long after these date and REC Services (Pty) Ltd (REC) will continue to do so throughout the duration of the project up to the final submission of the Environmental Impact Report (EIR) and Environmental Management Program (EMPr). The

challenge is to address comments and concerns to the best practical means and details available at that time.

The complete list of comments received from I&AP's can be viewed in Appendix 3G. The questions and comments received are addressed in Appendix 3G. REC has ensured that copies of this report is available to all I&AP's and Authorities for Comments.

#### 4.4 ADDRESSING THE COMMENTS AND QUESTIONS RECEIVED FROM THE I&AP'S

(Original comments on Registration and Comment Sheets, attached in Appendix 3E).

The following comments/concerns/objections were from:

- Please see Comments and Response Report (Appendix 3G).

#### 4.5 CONCLUSIONS OF THE PUBLIC PARTICIPATION EXERCISE

The activity has raised moderate significant environmental concerns from the community. This report will serve to clarify, consider and sustainably mitigate remaining and significant concerns that the participating I&AP's might have.

In conclusion, the public participation exercise has provided adequate information to enable an understanding of what this activity entails and also to list and address the concerns and comments together with local information in the specialist reports compiled (if any) for this Report. Through addressing all comments and questions received from the I&AP's, and through the compilation of a detailed EIR, the consultant has attempted to promote a better understanding of the activities of the development and to provide as much information concerning technical aspects of the development. Please refer to the comments and responses report in Appendix 3G.

*In conclusion, it is regarded by the EAP that the EIA exercise undertaken for this activity has satisfied the requirements for Public Participation Process.*

### 5. MOTIVATION TO CONSIDER THIS APPLICATION FAVOURABLY

The motivation contained in the following paragraphs will endeavor to show this activity's **need and desirability factor**.

South African Food Security: Food security is a broad term, which is defined in different ways by a number of organisations around the world. The basic definition of food security is that it refers to the ability of individuals to obtain sufficient food on a day-to-day basis.

Internationally food security is defined as the ability of people to secure adequate food. More especially it has been defined by researchers as the access by all people at all times to enough food for an active healthy life (Anderson 1990).

Food and Agricultural Organisation (FAO) report (2004) emphasised that agriculture is a key to food security in many parts of the world. The report indicates further that agriculture contributes to poverty alleviation by reducing food prices, creating employment, improving farm income and increasing wages. Making agriculture work must be central component of policy approaches to food insecurity reduction and increasing economic growth. Increased investment in agriculture will help address the current inequalities. Empowering people to grow their own food for subsistence or income generation will provide nourishment and potential income to many people in the country.

Scholtz, MM *et al.*, 2013 described that it is also relevant to consider calf finishing systems or the post weaning phase. Cattle in South Africa are fattened in feedlots for approximately 110 days, which means that they produce GHG for only 110 days before being slaughtered. For cattle on rangeland/pasture it requires more than 200 days to finish to the same carcass classification because of the lower-quality feed compared with a feedlot diet (Meissner *et al.*, 2012). Furthermore, the lower-quality feed (mainly natural pastures) results in cattle producing more GHG per kilogram feed intake than the concentrated diets being fed in feedlots (Capper, 2011; Meissner *et al.*, 2012). This results in feedlots maximizing efficiency of meat production resulting in a lower carbon footprint per kilogram of beef. Furthermore, substantial evidence indicates that organic production systems consume more energy and have a bigger carbon footprint than conventional production systems. For example, organic grass-fed cattle require approximately three times more energy per kilogram of weight gain, and release more than double the quantity of GHGs per kilogram of weight gain of conventional feedlot cattle (Capper, 2010).

The activity is contributing to the local economy of the Ngwathe Local Municipality by employing local individuals and supporting local businesses. Ten (10) to fifteen (15) employees directly benefit from this development.

## **6. SITE LOCALITY AND SITE LAYOUT**

### **6.1 LOCALITY**

The nearest town to the farm is Parys, Free State Province, about 17 km to the southwest, but the farm itself is located just close the border of the Free State Province.



**Figure 3: Google Earth map showing the locality of the site.**

Coordinates of site: Longitude: -26.806143°S Latitude: 27.547710°E. Please see attached locality map (Appendix 1).

## **7. SENSITIVITY MAP**

Sensitivity map was done. The following maps were produced in terms of the Screening Tool report.

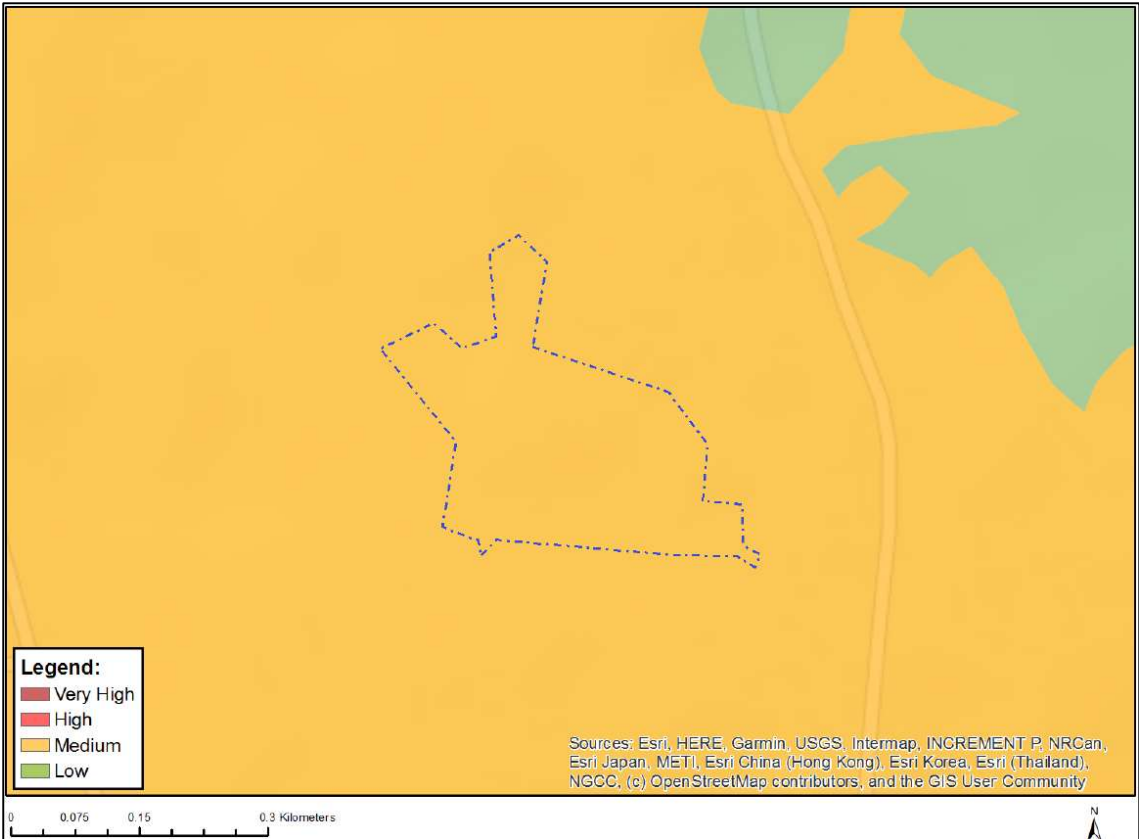


Figure 4: Plant species theme sensitivity.

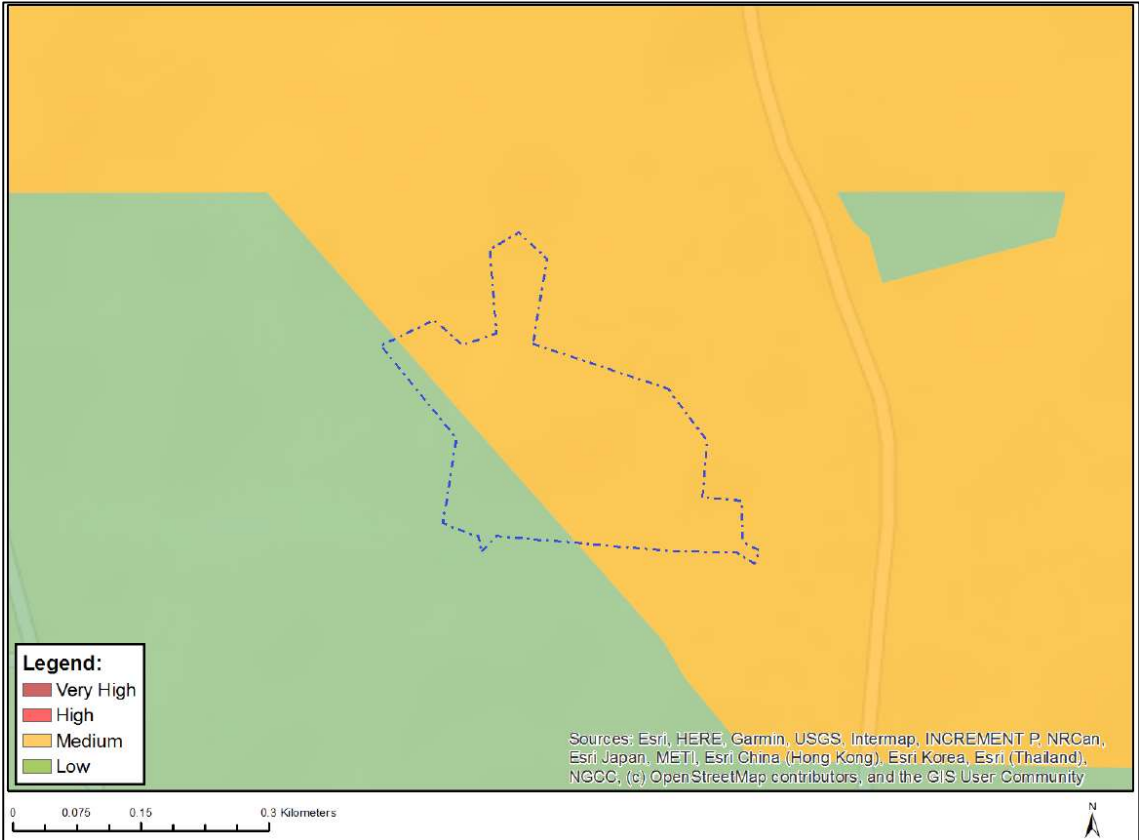
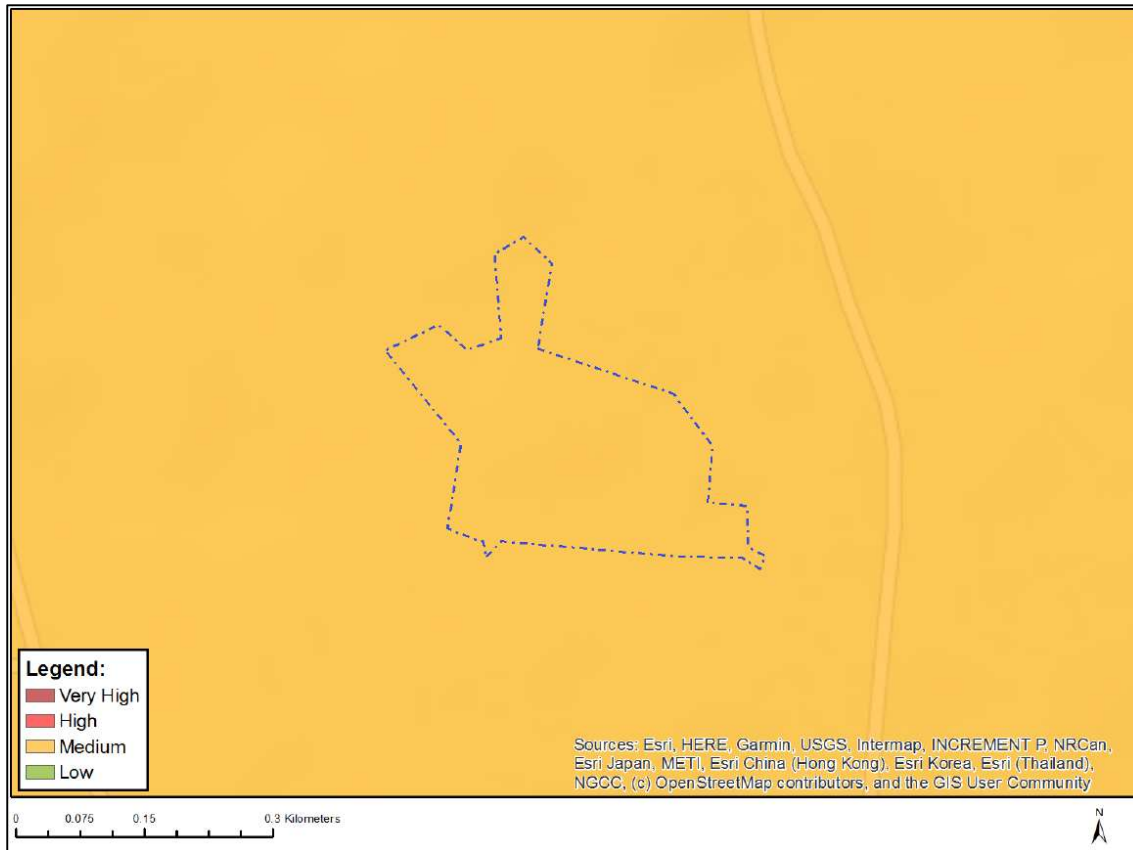


Figure 5: Animal species theme sensitivity.



**Figure 6: Paleontology theme sensitivity.**

## **8. DESCRIPTION OF ACTIVITIES APPLIED FOR:**

### **8.1 SIZE OF PROPERTY**

The property area is 254.32Ha. The site footprint is about 5 Ha.

### **8.2 THE PHYSICAL ADDRESS OF THE SITE**

The farm Canford Cliffs No.133, Free State Province. The nearest town to the farm is Parys, Free State Province, about 17 km to the southwest, but the farm itself is located close to the border of the Free State Province. Coordinates:

Longitude: -26.806143°S Latitude: 27.547710°E.

### **8.3 THE NUMBER OF STRUCTURES WITHIN THE DEVELOPMENT AND SIZE OF THE DEVELOPMENT, IN RELATION TO THE WHOLE PROPERTY**

The following project description was provided by the applicant of what will be developed on site:

The activity that has commenced involves the construction of feedlot infrastructure. This includes the construction of:

- Handling and storage facilities



- Railing and enclosures for Pens
- Feeding and water infrastructure.
- On and off-loading ramps.
- Dipping tanks.

The follow process description is provided:

1. Cattle are brought to the farm at various ages.
2. Weaners calves are brought in from other farms for a backgrounding process at age 205 days.
3. Animals that pass the backgrounding phase are placed in the feedlot for the grower phase. 200kg to 360kg.
4. Animals that have finished the grower phase are placed in the finisher phase. 630kg to 850kg.
5. After the slaughter weight has been achieved, animals are transported away from the farm for slaughter at Cavalier near Cullinan.

#### 8.4 THE NUMBER OF STRUCTURE WITHIN THE FACILITY AND THEIR USES

The activities that were unlawfully undertaken and will still be involved in the development:

- Storage facilities: x 4.
- Railing and enclosures for Pens: x 16, and 7 small pens.
- Feeding and water infrastructure: one silo.

#### 9. A SWORN AFFIDAVIT BY THE EAP

See Attached. Appendix 7.

#### 10. ASSESSMENT OF THE CURRENT AND POSSIBLE ENVIRONMENTAL IMPACTS OF THE ACTIVITY

##### 10.1 THE METHODOLOGY UTILISED IN THE RATING OF SIGNIFICANCE OF IMPACTS

The **Significance** of Environmental Impacts is to be assessed by means of the following method: **Significance is the product of probability and severity. Probability** describes the likelihood of the impact actually occurring, and is rated as follows:

•	Improbable	-	Low possibility of impact to occur either because of design or historic experience. <b>Rating = 2</b>
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•	Probable	-	Prominent possibility that impact will occur. <b>Rating = 3</b>
•	Highly probable	-	Most likely that impact will occur. <b>Rating = 4</b>
•	Definite	-	Impact will occur regardless of any prevention measures <b>Rating = 5</b>

The severity rating is calculated from the factors given to intensity and duration. Intensity and duration factors are awarded to each impact, as described below.

The Intensity factor is awarded to each impact according to the following method:

•	Low intensity	-	Nature and/or man-made functions not affected and a minor impact may occur. <b>Factor 1</b>
•	Moderate intensity	-	Environment affected but natural functions and processes can continue though often in a slightly altered manner. <b>Factor 2</b>
•	High intensity	-	Environment affected to the extent that natural functions are altered to the extent that it will temporarily or permanently cease. <b>Factor 3</b>

Duration is assessed and a *factor* awarded in accordance with the following:

•	Short term	-	≤ 1 to 5 years <b>Factor 2</b>
•	Moderate term	-	5 - 15 years <b>Factor 3</b>
•	Long term	-	Impact will only cease after the operational life of the activity, either because of natural process or by human intervention. <b>Factor 4</b>

•	Permanent	-	Mitigation, either by natural process or by human intervention, will not occur in such a way or in such a time span that the impact can be considered transient. <b>Factor 5</b>
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The **severity rating** is obtained from calculating a severity factor, and comparing the severity factor to the rating in the table below, for example:

The Severity factor	Intensity factor X Duration factor $2 \times 3 = 6$
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A Severity factor of 6 (six) equals a Severity Rating of Moderate severity (Rating 3) as per table below:

Severity Ratings	FACTOR
Low Severity (Rating 2)	Calculated values 2 to 4
Moderate Severity (Rating 3)	Calculated values 5 to 8
High Severity (Rating 4)	Calculated values 9 to 12
Very High Severity (Rating 5)	Calculated values 13 to 16 and more
Severity factors below 3 indicate no impact	

A **Significance Rating** is calculated by multiplying the Severity Rating with the Probability Rating:  
The significance rating should influence the development project as described below:

•	<b>Low significance (calculated Significance Rating 4 to 6)</b>	
	-	Positive impact and negative impacts of low significance should have no influence on the proposed development project
•	<b>Moderate significance (calculated Significance Rating <math>\geq 7</math> to 12)</b>	
	-	Positive impact Should indicate that the proposed project should be approved
	-	Negative impact: Should be mitigated or mitigation measures should be formulated before the proposed project can be approved
	<b>High significance (calculated Significance Rating <math>\geq 13</math> to 18)</b>	

		-	Positive impact: Should points towards a decision for the project to be approved and should be enhanced in final design
		-	Negative impact: Should weigh towards a decision to terminate proposal, or mitigation should be formulated and performed to reduce significance to at least low significance rating.
•	Very High significance (calculated Significance Rating $\geq 19$ to 25 and more)		

10.2 THE POTENTIAL IMPACTS (AS APPROPRIATE), SIGNIFICANCE RATING OF IMPACTS, PROPOSED MITIGATION AND SIGNIFICANCE RATING OF IMPACTS AFTER MITIGATION THAT ARE LIKELY TO OCCUR AS A RESULT OF THE CONSTRUCTION PHASE FOR THE VARIOUS ALTERNATIVES OF THE DEVELOPMENT

**Preferred alternative:**

The significance of environmental impacts was assessed in accordance with the following method: Significance is the product of probability and severity of the impact. Where, probability describes the likelihood of the impact occurring. The severity rating is calculated from factors given to the intensity and duration of the environmental impact. This method of impact significance rating is the most objective method of quantifying the significance of environmental impacts

PLANNING AND DESIGN PHASE

This is an application to rectify an already existing development. Although only a small part of the property was used to date. Please see the layout map in Appendix 2A for the careful planning and design of where each element is situated.

CONSTRUCTION PHASE (completed)

**Direct impacts:**

- Possible soil erosion due to vegetation clearance.
- Additional emissions from construction vehicles to the site.
- Possible soil contamination due to accidental spillages.
- Highveld grassland destruction.
- Snaring and hunting of fauna and avifaunal species and the destruction of habitats can have a detrimental effect on some species.

**Indirect impacts:**

- Soil pollution due to occurrence of oil/diesel spills.
- Possible spreading of invaders into the natural surrounding areas.

**Cumulative impacts:**

- Ground water pollution due to soil pollution of an already disturbed environment.
- Possible added soil erosion due to vegetation clearance.
- The ever diminishing of the highveld grassland biome.

**Mitigation measures:**

- Use of drip trays in the construction phase when equipment stands overnight.
- Proactive measures to prevent equipment from leaking through servicing and well maintenance.
- Work should only occur in normal working hours to prevent disturbance of construction to neighbours at night.
- All materials must be stored in a designated area on site that is sealed and on an impenetrable surface.
- Designated moving areas to be identified to help natural vegetation re-establish in areas not used by the feedlot.
- Do landscaping/rehabilitation to prevent soil erosion from occurring over the disturbed area.

**OPERATIONAL PHASE****Direct impacts:**

- Possible soil erosion due to vegetation clearance and unpaved areas where people, animals and vehicles move.
- Additional emissions from vehicles to the site.
- Possible soil contamination due to accidental spillages from vehicles and other equipment.
- Feedlot visible from neighboring properties.
- Noise created from cattle, movement of cattle and machinery on the study area.
- Unwanted smells blowing to neighbors on neighboring properties.

**Indirect impacts:**

- Soil pollution due to occurrence of oil and other chemical spills.
- Wildlife of the area could digest domestic waste and choke or get dependent on the additional food source and become a nuisance or even dangerous to humans.

**Cumulative impacts:**

- A contaminated water supply could lead to degradation of animal life and vegetation cover.
- Possible added soil erosion due to vegetation clearance not correctly managed/rehabilitated.

**Mitigation measures:**

- Use of drip trays in the construction phase when equipment stands overnight.
- Proactive measures to prevent equipment from leaking through servicing and maintenance.
- Work should only occur in normal working hours or at the latest up to 21:00, to prevent disturbance of neighbouring properties and animals at night.
- All chemical materials must be stored/built in a designated area on site that is sealed and on an impenetrable surface.
- Designated moving areas to be identified to help natural vegetation re-establish in areas not used by the feedlot.
- Do landscaping/concurrent rehabilitation to prevent soil erosion from occurring over the disturbed area.
- Try and prevent wildlife from accessing the feedlot's food source.

**DECOMMISSIONING AND CLOSURE PHASES****Direct impacts:**

Visual impact. The site may become a derelict "eye sore" if the remaining structures are allowed to physically deteriorate.

**Indirect impacts:**

- Squatters may use the site and its structures as a place to dwell.

- This poses a potential environmental threat in terms of uncontrolled domestic waste and sewage disposal on site and into the natural drainage lines of the area.
- Veld fires could occur from squatting activities.
- Security on the farm will be compromised.

**Cumulative impacts:**

The integrity of the structures on the site may over time become compromised and pose a potential environmental and health risk.

**Mitigation measures:**

- A management plan and potential rehabilitation costs could be calculated to prepare the applicant for the decommissioning stage. That is if this property will never be used in terms of the agricultural scheme again.

### 10.3 IMPACT ASSESSMENT

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Vegetation clearance for the footprint of the development. Clearance of vegetation in the establishment of infrastructure	Soil layers, soil surface, indigenous vegetation cover.	On-site.	<p>The removal of vegetation cover, such that the soil surface is exposed, may lead to increased soil erosion in certain areas. The existing vegetation will be permanently removed to accommodate the footprint of the development. Where the removal of surface vegetation is of a temporary nature only, the establishment of weeds is a threat. The topsoil layer is required to rehabilitate the area (i.e., for landscaping the area).</p> <p>Probability = 4 (highly probable)  Intensity = 4 (moderate intensity)  Duration = 4 (long term)  Severity = 4x4=16 (rating 4)  Significance= 4x4=16</p> <p><b>This impact is of negative high significance.</b></p>	<p>It is advisable that only vegetation be removed where and when it is necessary. After removal of vegetation, landscaping needs to be incorporated by re-establishing natural grassland/vegetation where appropriate. No red data plant species were recorded during the site visits conducted.</p> <p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance= 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>



ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Stockpiling building materials (C)	Soil and vegetation cover.	The impact is of a localized nature.	<p>Stockpiles will need to be established for the storage of aggregate, bricks and cement. As mentioned, stockpiles cause compaction of the soil surface, which leads to the growth of unwanted weed species.</p> <p>Probability = 3 (probable)  Intensity = 2 (low intensity)  Duration = 4 (long term)  Severity = 2x4=8 (rating 3)  Significance= 3x3=9</p> <p><b>This impact is of negative moderate significance.</b></p>	<p>Building material stockpiles must not be stockpiles within any of the riparian areas. Any alien vegetation that established itself because of disturbance need to be eradicated.</p> <p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance= 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>
Water use for operational purposes of the development.	Groundwater is used.	On-site.	A Water Use License Application is in process and will be addressing this impact.	Mitigation measure would still be to use water only when needed to stay within the estimated quota.

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Provisions for storm water i.e., storm water drainage (C) (O)	Soil surfaces, vegetation cover and drainage patterns. Also groundwater and overall health of people and animals.	Areas where surface water run-off is collected i.e., like from compacted surfaces, gutters and structures, as well as open surfaces in and around the feedlot.	<p>Poorly implemented storm water outlets will result in increased surface run-off volume and speed, which could lead to the creation of erosion gullies. Storm water must be allowed to spread out gradually over a large surface area to protect the soil surface against erosion. Inadequate provision for the management of stormwater and feedlot pen run off can also pose environmental and health risks to onsite employees, surrounding communities and the animals themselves.</p> <p><b>Probability = 3 (probable)</b>  <b>Intensity = 2 (low intensity)</b>  <b>Duration = 4 (long term)</b>  <b>Severity = 2x4=8 (rating 3)</b>  <b>Significance = 3x3=9</b></p> <p><b>This impact is of negative moderate significance.</b></p>	<p>Storm water outlet designs have to be done and construction undertaken within the correct design documents from the civil engineer. Vegetation cover needs to be established on bare soil areas to prevent erosion due to storm water. Stormwater and feedlot pen run off can be adequately managed with a well-designed drainage system. The key components in the design of an adequate drainage system include:</p> <ul style="list-style-type: none"> <li>• Clean stormwater runoff</li> <li>• Feedlot pen configuration and drainage</li> <li>• Sedimentation system</li> <li>• Evaporation pond</li> <li>• Manure stockpiling and composting</li> </ul> <p><b>Probability = 3 (improbable)</b>  <b>Intensity = 2 (low intensity)</b>  <b>Duration = 2 (short term)</b>  <b>Severity = 2x2=4 (rating 2)</b></p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
				Significance = $3 \times 2 = 6$ <b>This impact is of negative low significance.</b>
Maintenance of storm water management systems. (O)	Soil surfaces, drainage patterns and surface water.	In all areas where storm water management systems have to be created.	Storm water management will particularly be important with careful design eminent at the crossing of any natural drainage ways. Storm water outlets can get blocked due to debris and other substances that are washed from the hard surfaces. This includes siltation due to soil erosion.  Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$ <b>This impact is of negative moderate significance.</b>	Maintenance of storm water structures and outlets is required to ensure that they don't get blocked (i.e., no longer fulfil their function) or result in erosion. The custodian of the development has to perform regular checks and maintenance.  Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$ <b>This impact is of negative low significance.</b>
Site maintenance. (O)	Vegetation and soil surface conditions, as well as social well-being	The site needs to be maintained.	Poorly maintained storm water drainage structure will cause abnormal soil erosion at	Site maintenance is essential and is the responsibility of the property owner and feedlot managers.

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
	of the residents of the area.		<p>outlets. Therefore, site maintenance is essential.</p> <p>Probability = 3 (probable)  Intensity = 2 (low intensity)  Duration = 4 (long term)  Severity = 2x4=8 (rating 3)  Significance = 3x3=9</p> <p><b>This impact is of negative moderate significance.</b></p>	<p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance = 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>
Noise generation by the feedlot. (C) (O)	Impacts on faunal and surrounding landowners.	Areas on and surrounding the site at which activities take place.	<p>Excessive noise levels on site may negatively impact upon the behaviour and movements of site fauna. Surrounding landowners may also potentially be negatively impacted upon by noise levels from cattle and machinery.</p> <p>Probability = 3 (probable)  Intensity = 2 (low intensity)  Duration = 4 (long term)</p>	<p>This feedlot is situated in a rural/farming area and not close to any densely populated areas. Noise Impact can be mitigated by planting trees along the border of the feedlot.</p> <p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance = 3x2=6</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			Severity = 2x4=8 (rating 3) Significance = 3x3=9 <b>This impact is of negative moderate significance.</b>	<b>This impact is of negative low significance.</b>
The development on endangered/threatened animals and plants. (C)	Animals & plants	On-site and surrounding area.	The development will influence animal life and habitat. Snaring and hunting of fauna and avifauna species during the construction phase and the destruction of habitats can have a detrimental effect on some species. No red data species were recorded during the site visits.  Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 <b>This impact is of negative moderate significance.</b>	Although habitat was lost, proper rehabilitation of the site, not used, could lessen the severity of the impact. Strict measures to prevent the hunting/snaring/scaring of fauna species should be implemented. The gathering of wood should not be allowed on site or on any adjacent properties. Any person that is caught hunting, snaring or damaging existing vegetation (earmarked to be retained) should be fined. The responsible contractor will also be fined and will have to replace the fauna or flora species as specified by the ECO at the time. The involved authorities should be informed of the activity, the fine and the replacement specifications. Caught animals

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
				<p>should be relocated to conservation areas in the vicinity.</p> <p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance = 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>
Loss of ecological and soil feature. (C)	Soil	Bare soil on site.	<p>Unmanaged op soil will lead to largescale erosion.</p> <p>Probability = 3 (probable)  Intensity = 2 (low intensity)  Duration = 4 (long term)  Severity = 2x4=8 (rating 3)  Significance = 3x3=9</p> <p><b>This impact is of negative moderate significance.</b></p>	<p>The infrastructure of the feedlot will aid in the prevention of soil loss from the area due to the fact that energy is dissipated.</p> <p>Probability = 3 (improbable)  Intensity = 2 (low intensity)  Duration = 2 (short term)  Severity = 2x2=4 (rating 2)  Significance = 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Odour from the Feedlot. (O)	Air quality.	Onsite and neighbouring properties.	<p>Unwanted smells blowing to neighbours on neighbouring properties.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9</p> <p><b>This impact is of negative moderate significance.</b></p>	<p>It is recommended that lime powder be used at pre-set intervals to neutralize smells. It is also recommended that cattle pens be cleaned after each cycle (approx. 2 months).</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p> <p><b>This impact is of negative low significance.</b></p>
Eradication of invasive species. (C)	Natural veld.	Onsite.	<p>Invasive species being removed.</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16</p> <p><b>This impact is of POSITIVE high significance.</b></p>	<p>Eradication of invasive species during the construction phase benefitted the biophysical environment. Not necessary to mitigate.</p> <p>No risk due to positive impact.</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Agricultural potential. (O)	Agricultural land.	Onsite.	<p>Feasible use of agricultural land.</p> <p>Probability = 4 (highly probable)  Intensity = 4 (moderate intensity)  Duration = 4 (long term)  Severity = 4x4=16 (rating 4)  Significance= 4x4=16</p> <p><b>This impact is of POSITIVE high significance.</b></p>	<p>The Feedlot construction has promoted the principle of higher agricultural yields on smaller portions of land, the construction therefore had a beneficial impact.</p> <p>No risk due to positive impact.</p>
Social & Economic Environment. (C) (O)	Job creation.	Onsite.	<p>Creation of Job opportunities.</p> <p>Probability = 4 (highly probable)  Intensity = 4 (moderate intensity)  Duration = 4 (long term)  Severity = 4x4=16 (rating 4)  Significance= 4x4=16</p> <p><b>This impact is of POSITIVE high significance.</b></p>	<p>The construction created job opportunities during the construction and operational phases. Only employing people from the local community could mitigate the potential adverse impact.</p> <p>No risk due to positive impact.</p>



## **11. ENVIRONMENTAL MANAGEMENT PROGRAM**

The EMPr is attached. Appendix 6.

### **11.1 NAME AND CONTACT DETAILS OF THE ENVIRONMENTAL CONTROL OFFICER RESPONSIBLE FOR MONITORING OF COMPLIANCE TO THE EMPR:**

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

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## **12. SERVICE PROVISION AND AVAILABILITY OF BULK SERVICES**

### **12.1 WATER**

Water is supplied from boreholes.

### **12.2 SEWERAGE SYSTEM**

No sewerage system. Manure from Cattle Pens will be cleaned, removed and utilized as fertilizer for cultivated fields used to produce cattle feed.

### **12.3 ROADS**

Access to the property is via: R59 then onto the S1052 until you reach the farm access gate.

### **12.4 STORMWATER**

Due to the very low densification currently, storm water will drain directly from hard and open surfaces into the natural environment. A possible stormwater management plan will be needed. See EMPr for details.

### **12.5 ELECTRICAL**

The electrical reticulation is fed directly from the Eskom network with an adequate rating to fulfill the needs of the farm and the supporting infrastructure.

## 12.6 SOLID WASTE DISPOSAL & MANAGEMENT

Minimal construction waste was generated during the construction phase. All construction waste was disposed of at the Parys Municipal dumping site. Little to no solid waste is generated onsite.

## 13. LEGISLATION AND GUIDELINES THAT HAVE BEEN CONSIDERED

Title of legislation, policy or guideline:                      Administering authority:      Date:

National Environmental Management Act (NEMA) (Act No. 107 of 27 November 1998), as amended	Department of Environmental Affairs	27 November 1998
Screening Tool Report for an environmental authorization or for a part two amendment of an environmental authorisation as required by the 2014 EIA Regulations - proposed site environmental sensitivity	Department of Environmental Affairs	October 2019
National Environmental Management: Biodiversity Act (Act no. 10 of 2004)	Department of Environmental Affairs	7 June 2004
National Water Act (Act No. 36 of 1998)	Department of Water Affairs	20 August 1998
Constitution of the Republic of South Africa No. 108 of 1996. Section 24	Provincial	18 December 1996
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)	PHRAG	28 April 1999

## 14. COLOUR PHOTOGRAPHS OF THE FOLLOWING:

Please see Section 3.2.6 containing all the site photographs of the property.