Draft Basic Assessment Report

for

VAN WYK BOERDERY
REF NO.

Prepared by:

Bucandi Environmental Solutions

BUCANDI
ENVIRONMENTAL SOLUTIONS
Environmental concerns? Consider it solved!

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(For official use only)

File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This basic assessment report is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of 13 February 2020. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable tick the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent and EAPASA registered environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES	NO√

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. The need for a Basic Assessment is triggered by Listing 1; activities 28 and 39(i) in GN R983 dated 4 December 2014 and amended on 07 April 2017. The total area of the project is 75 008.36 m2 (7.50 ha).

- Earthworks and utilisation of agricultural fields on the site for expansion of infrastructure (pens, hallways, road and parking lot).
- The construction of 36 camps (30 m x 60 m), each with a capacity to hold 120 head of cattle.
- All camps will have feeding and water troughs.
- A dirt road will run between the four rows of camps, the gate and the parking lot.

The site will be enclosed with a 2.4 m wooden fence with steel rebar. One entrance gate will be constructed to give access to the site.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 327,325 and 324	Description of project activity
GN 327 (ACTIVITY NO.28) Residential, mixed, retail, commercial, industrial or institutional development where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.	Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle. The proposed site is currently in use as an agricultural field.
GN 327 (ACTIVITY NO.39) The expansion and related operation of facilities for the concentration of animals in densities that will exceed (i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units.	There is currently a small feedlot on site that has capacity for 400 head of cattle.

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;

(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h) of GN 326, Regulation 2014 as amended. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
This site consists of agricultural land. An existing farm road leads directly to the site. S1 is flat and the costs and impacts of earthworks before construction will be minimal. A water point exists at the site, minimising the onset costs and requirements. Electricity & water supply already exist at the site. The site is located relatively high and stays dry year-round.	27°20'11.75"	28°28'24.57"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred)		
• Starting point of the activity		
• Middle/Additional point of the activity		

• End point of the activity		
Alternative S2 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		
Alternative S3 (if any)		
• Starting point of the activity		
• Middle/Additional point of the activity		
• End point of the activity		

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The layout will entail the following: The construction of 120 camps (30 m x 60 m), each with a capacity to hold 120 head of cattle. The total area of the project is 75 008.36 m^2 (7.50 ha).	27°20'11.75"	28°28'24.57"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

e) No-go alternative

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	Size of the activity:
Alternative A1[1] (preferred activity alternative)	75 008.34 m²
Alternative A2 (if any)	m²
Alternative A3 (if any)	m²

or, for linear activities:

Alternative:	Length of the activity:
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative)	3 339 416.29 m²
Alternative A2 (if any)	m²
Alternative A3 (if any)	m²

4. SITE ACCESS

Does ready access to the site exist?	YES √	NO
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

The R26 between Reitz (south) and Frankfort (north) runs directly next to the proposed site. A dirt road runs directly to the site providing access to the site.

[1] "Alternative A.." refer to activity, process, technology or other alternatives.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town (s;)
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100-year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;

- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as Appendix C for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. Is the activity permitted in terms of the property's existing land use rights?	YES √	NO	Please explain
The property is currently zoned as agricultural allowing for agri-industrial infrastructure such as the proposed development.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES √	NO	Please explain
The planning of the activity took into account the actions stipulated in the PSDF such as minimising environmental impacts and conserving natural resources			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The development will not compromise the urban edge of the edge of built environment			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES √	NO	Please explain
Approval of this application will not compromise the integrity of the existing IDP and SDF			
(d) Approved Structure Plan of the Municipality	YES √	NO	Please explain
Approval of this application will not compromise the integrity of the existing IDP and SDF.			

(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES √	NO	Please explain
The proposed development falls within a Biodiversity classification that is Ecological Support Area 2. The site has been completely transformed by establishment of agricultural fields.			
(f) Any other Plans (e.g. Guide Plan)	YES	NO √	Please explain
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES √	NO	Please explain
Building plans will be assessed and signed off by the Municipality			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES √	NO	Please explain
Internationally production of cattle has increased significantly over the past few years in line with increased consumer demands for production of cattle and expectations are that consumer demand will continue to increase. Due to overcrowding of present facilities, lack of additional facilities and therefore the potential for increased biological risk, suppliers have embarked on a process of establishing new facilities in order to overcome these problems and ensure the long-term sustainability and viability of the industry. The socio-economic value of the project will indirectly have a positive impact on the immediate area as well as cater for the increasing demand for cattle products in Free State and nationally. At least 15 temporary employment opportunities will be created during the development and construction phase. At least 15 people will be permanently employed during the operational phase of the activity. Contractors are employed during the construction phase and additional employment opportunities are therefore created.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES √	NO	Please explain
Electricity supply already exist at the site.			

6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES √	NO	Please explain
The intended development is of agri-industrial nature and is therefore within the planning for the area that is zoned agricultural.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES	N√O	Please explain
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES √	NO	Please explain
Infrastructure already exist at the site and existing buildings can be used so that no further construction will take place at the site			
9. Is the development the best practicable environmental option for this land/site?	YES √	NO	Please explain
The site has been completely transformed and operation of a cattle feedlot at the site is a good option			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES √	NO	Please explain
Internationally production of cattle has increased significantly over the past few years in line with increased consumer demands for production of cattle and expectations are that consumer demand will continue to increase. Due to overcrowding of present facilities, lack of additional facilities and therefore the potential for increased biological risk, suppliers have embarked on a process of establishing new facilities in order to overcome these problems and ensure the long-term sustainability and viability of the industry. The socio-economic value of the project will indirectly have a positive impact on the immediate area as well as cater for the increasing demand for cattle products in Free State and nationally. At least 15 temporary employment opportunities will be created during the development and construction phase. At least 15 people will be permanently employed during the operational phase of the activity. Contractors are employed during the construction phase and additional employment opportunities are therefore created			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO √	Please explain
The area already contains a small feedlot with similar activities in the surrounding area.			

12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO √	Please explain
Mitigation and management measures will adequately address all the possible impacts that have been identified.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO √	Please explain
The site is located in an urban area.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO √	Please explain
15. What will the benefits be to society in general and to the local communities?			Please explain
Internationally production of cattle has increased significantly over the past few years in line with increased consumer demands for production of cattle and expectations are that consumer demand will continue to increase. Due to overcrowding of present facilities, lack of additional facilities and therefore the potential for increased biological risk, suppliers have embarked on a process of establishing new facilities in order to overcome these problems and ensure the long-term sustainability and viability of the industry. The socio-economic value of the project will indirectly have a positive impact on the immediate area as well as cater for the increasing demand for cattle products in Free State and nationally. At least 15 temporary employment opportunities will be created during the development and construction phase. At least 15 people will be permanently employed during the operational phase of the activity. Contractors are employed during the construction phase and additional employment opportunities are therefore created			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
17. How does the project fit into the National Development Plan for 2030?			Please explain
The project will contribute positively to the following categories identified in the NDP: Economy and employment Economic infrastructure Inclusive rural economy			

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.
During the Basic Assessment process all positive and negative impacts were thoroughly assessed and described. Mitigation measures have been proposed where applicable and written into the EMPr for the activity. The activity will only go ahead in adherence with the EMPr.
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.
The proposed development will be socially, environmentally and economically sustainable. It will provide employment opportunities and sought after meat products. It will be designed to minimise the impacts on the environment by minimising waste and placing the development on a suitable site

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, Act No. 107 of 1998. Listing 1 of regulation 327 promulgated under Chapter 5 of the National Environmental Management Act (NEMA, Act 107 of 1998) in Government Gazette 38282. Listed activity 4, 27, 39(i) as well as Listing Notice 3, activity 12(b)(i).	Van Wyk Holdings is proposing the construction of a cattle feedlot with capacity for 5 000 cattle. The activity will involve the utilisation of approximately 7 ha of agricultural field that is currently ranked as "ESA 2" according to the province's biodiversity plan. There is currently a small feedlot on site that has capacity for 400 head of cattle. The vegetation on-site is historically classified as Frankfort Highveld Grassland, vulnerable vegetation type.	Free State Department of Tourism Environment and Economic Affairs	1998 2017
National Water Act, Act No. 36 of 1998.	Water use will be registered with the Department of Water Affairs	Department of Water Affairs	1998
Conservation of Agricultural Resources Act, Act No. 43 of 1983	A copy of the BAR will be sent to the Free State Department of Agriculture and Rural Development	Free State Department of Agriculture and Rural Development	1983
Heritage Act, Act No 25 of	The site will be investigated to see if any action is necessary	South African Heritage	1999

1999.	in terms of the Heritage Act.	Resources Act	
Meat Safety Act, Act 40 of 2000 Cattle Regulations, Reg. 153 published on 24 February 2006 in GN 8402.	Only applicable to facilities containing abattoirs.	Free State Department of Tourism Environment and Economic Affairs	2000
National Environmental Management: Waste Act, Act No. 59 of 2008 Listed Activities Reg. 921 published on 29 November 2013 in GN 37083	Activity does not trigger a Listed Activity	Free State Department of Tourism Environment and Economic Affairs	2008 2016
Occupational Health and Safety Act, Act 85 of 1993 Noise regulation, 2003 Environmental regulations for workplaces, 1987 Facility regulations,1990 General Health and Safety Regulations, 1986 Electrical Installation Regulations, 2009. Electrical Machinery Regulations, 1988. Construction Regulations, 2014	The regulations were taken into account during the design of the activity and process in order to adhere to the Act.		1993 2003 1987 1990 1986 2009 1988 2014

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES √	NO
If YES, what estimated quantity will be produced per month?		9 m^3

How will the construction solid waste be disposed of (describe)?

Waste is expected to be limited to packaging materials (shrink wrap, cardboard) and litter generated by the construction staff. Waste will be recycled as far as possible. Non-recyclable waste will be sorted into different types and disposed of at a suitably licensed waste disposal facility.

Where will the construction solid waste be disposed of (describe)?

Construction phase solid waste will be disposed of at the nearest licensed waste disposal site. Waste considered unsuitable for municipal waste disposal sites will be disposed of at a suitably licensed hazardous waste disposal facility (e.g. WasteTech).

Will the activity produce solid waste during its operational phase?	YES √	NO
If YES, what estimated quantity will be produced per month?		70 m³

How will the solid waste be disposed of (describe)?

Operational phase solid waste will be disposed of at the nearest licensed waste disposal site. Waste considered unsuitable for municipal waste disposal sites will be disposed of at a suitably licensed hazardous waste disposal facility (e.g. WasteTech).

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Any general waste such as litter generated by staff will be disposed of at the nearest licensed waste disposal site.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

Manure Removal Approximately 1 110 tons of cattle manure will be produced monthly. Manure will be sprayed as fertilizer on agricultural fields and will not be stockpiled. Disposal of Mortalities Approximately 3 dead cattle will be produced per cycle. The mortalities are removed on a daily basis and is collected by a predator farmer (Letsatsi L'Africa). A letter showing agreement will be included in the FBAR.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM: WA?	YES	NO √

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO √

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

No-go alternative:

Will the activity produce solid construction waste during the construction/initiation phase?	YES	NO √
If YES, what estimated quantity will be produced per month?		0 m³

How will the construction solid waste be disposed of (describe)?

No solid waste will be produced.

Where will the construction solid waste be disposed of (describe)?

No solid waste will be produced.

Will the activity produce solid waste during its operational phase?	YES	NO √
If YES, what estimated quantity will be produced per month?	0m³	
How will the solid waste be disposed of (describe)?		

No solid waste will be produced.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

No solid waste will be produced.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

No solid waste will be produced.

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM: WA?	YES	NO √

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM: WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO √
If YES, what estimated quantity will be produced per month?		m³
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO √

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO √

If YES, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	

E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Stormwater will be directed around the site. Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.

No-go alternative:

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO √
If YES, what estimated quantity will be produced per month?		m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO √

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO √

If YES, provide the particulars of the facility:

Facility name:	N/A		
Contact person:	N/A		
Postal address:	N/A		
Postal code:	N/A		
Telephone:	N/A	Cell:	N/A
E-mail:	N/A	Fax:	N/A

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Stormwater will be directed around the site. Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	NO √
If YES, is it controlled by any legislation of any sphere of government?	YES	NO √

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

Dust and methane gas will be generated by the presence of cattle in the feedlot. The applicant is located in a remote area and this should not cause any discomfort to neighbours.

No-go alternative

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	NO √
If YES, is it controlled by any legislation of any sphere of government?	YES	NO √

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If NO, describe the emissions in terms of type and concentration:

None

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM: WA?	YES	NO √

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

No-go alternative: Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM: WA?	YES	NO √

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	YES √	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	NO

Describe the noise in terms of type and level:

Low levels of noise will be generated by the cattle present. Since there will not be machinery in operation at the site, this noise will be minimal

No-go alternative:

Will the activity generate noise?	YES √	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	NO √

Describe the noise in terms of type and level:

None

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater √	River, stream, dam or lake	Other	The activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	83 000 litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES	NO √

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

The property has existing boreholes that have been in place since the 1970s. A copy of the DBAR will also be circulated to DWS for comment and their recommendations will be followed by the applicant.

.

No-go alternative

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water √

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:	0 litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES	NO √

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The activity will only use electricity for security lighting. Solar panels will mostly be used to provide electricity.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

Solar panels will mostly be used to provide electricity.

No-go alternative

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

None

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): [ ]

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section? | YES | NO √ |

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Free State
District Municipality	Fezile Dabi District Municipality
Local Municipality	Mafube Local Municipality
Ward Number(s)	Ward 7
Farm name and number	Farm Viljoensvlei 525
Portion number	N/A
SG Code	F01400000000052500000

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agriculture

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required? | YES | NO √ |

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat √ 1:73	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

Alternative S1:

Indicate the landform(s) that best describes the site:

2.1 Ridgeline		2.4 Closed valley		2.7 Undulating plain / low hills	
2.2 Plateau	√	2.5 Open valley		2.8 Dune	
2.3 Side slope of hill/mountain		2.6 Plain		2.9 Seafront	
2.10 At sea					

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Alternative S1:

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO √	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO √	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO√	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO √	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO√	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO √	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO √	YES	NO	YES	NO
An area sensitive to erosion	YES	NO√	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUNDCOVER

Alternative S1:

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition[E]	Natural veld with scattered aliens[E]	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	Cultivated land √	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. SURFACE WATER

Alternative S1:

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO √	UNSURE
Non-Perennial River	YES	NO √	UNSURE
Permanent Wetland	YES	NO √	UNSURE
Seasonal Wetland	YES	NO √	UNSURE
Artificial Wetland	YES	NO √	UNSURE
Estuarine / Lagoonal wetland	YES	NO √	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

6. LAND USE CHARACTER OF SURROUNDING AREA

Alternative S1:

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area √	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential[A]	Church	Agriculture √
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant[A]	Nature conservation area
Medium industrial [AN]	Train station or shunting yard [N]	Mountain, koppie or ridge
Heavy industrial [AN]	Railway line [N]	Museum
Power station	Major road (4 lanes or more) [N]	Historical building
Office/consulting room	Airport [N]	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam[A]	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

If any of the boxes marked with an "[N] "are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "[An]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO √
Core area of a protected area?	YES	NO√
Buffer area of a protected area?	YES	NO √
Planned expansion area of an existing protected area?	YES	NO√

Existing offset area associated with a previous Environmental Authorisation?	YES	NO √
Buffer area of the SKA?	YES	NO √

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. CULTURAL/HISTORICAL FEATURES

Alternative S1:

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO √
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

Will any building or structure older than 60 years be affected in any way?	YES	NO √
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO √

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

33.4%

Economic profile of local municipality:

The Mafube Local Municipality is a Category B municipality in the Fezile Dabi District of the Free State Province. It is one of the four municipalities in the district, making up almost a quarter of its geographical area. The name is a Sesotho word meaning 'dawning of the new day.Frankfort remains the growth point in Mafube, and plays a major role in terms of regional service provision and industrial and commercial development. Frankfort is situated 55km east of Heilbron and approximately 120km south-east of Sasolburg. Frankfort is a typically-developed small town, serving the predominant

surrounding agricultural community.
The Greater Tweeling area is located approximately 150km east of Sasolburg and 350km north-east of Bloemfontein, and is situated adjacent to the Frankfort/Reitz Primary Road. Other larger centres, such as Vereeniging and Vanderbijlpark, are all within 160km of Tweeling. Primary agricultural activities include sheep and cattle farming, maize, and sunflower seed production.
The Villiers Town area is situated on the banks of the Vaal River, adjacent to the N3 National Road between Gauteng and Durban. In relation to other major centres, the town is located 120km from Johannesburg, 80km from Vereeniging and 117km from Sasolburg. Villiers is predominantly agriculture-orientated, where products such as maize, sunflower, wheat, grain, sorghum, meat and dairy are produced. Villiers functions as the main concentration point for products in the district, from where they are directly exported. The grain silos in Villiers, together with other grain silos in the district, have a storage capacity of 273 000 tons.
The Greater Cornelia area is situated 40km east of Frankfort, 160km east of Sasolburg and 32km south-east of Villiers. The town is situated adjacent to the R103 Secondary Road between Warden and Villiers. Cornelia typically developed as a small town serving the predominant surrounding agricultural community.

Area: 3 977km²

Cities/Towns: Cornelia, Frankfort, Tweeling, Villiers

Main Economic Sectors: Community services (28.1%), manufacturing (24%), agriculture (13.9%), finance (12.1%), trade (9%), transport (7%), construction (4.5%)

Level of education:

No schooling: 11.8%
Matric: 32.3%
Higher education: 6.2%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 45 000 000.00	
What is the expected yearly income that will be generated by or as a result of the activity?	R 1 000 000.00	
Will the activity contribute to service infrastructure?	YES √	NO
Is the activity a public amenity?	YES	NO √
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	15	
What is the expected value of the employment opportunities during the development and construction phase?	R 864 000.00	
What percentage of this will accrue to previously disadvantaged individuals?	90%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	15	
What is the expected current value of the employment opportunities during the first 10 years?	R8 640 000.00	
What percentage of this will accrue to previously disadvantaged individuals?	100%	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Alternative S1:

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR) √	The entire site has a Biodiversity classification of "ESA 2".

b) Indicate and describe the habitat condition on site

Alternative S1:

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	%	
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed	100%	The proposed site has been entirely transformed by the

(includes cultivation, dams, urban, plantation, roads, etc)		establishment and operation of agricultural fields

c) Complete the table to indicate:
   (i) the type of vegetation, including its ecosystem status, present on the site; and
   (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable √							
	Least Threatened	YES	NO √	UNSURE	YES	NO √	YES	NO √

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

Alternative S1:

The site historically contained Frankfort Highveld Grassland, a Vulnerable vegetation type. None of this vegetation currently remains on site as it has been transformed to agricultural fields.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Frankfort Herhald	
Date published	13 March 2023	
Site notice position	Latitude	Latitude
	27º20'17.13"	27º20'17.13"
Date placed	13 March 2023	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 326

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 326

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Hans Pretorius	Neighbour	082 828 5266 hansleeu@gmail.com
Andries Radley	Neighbour	079 493 1144 andriesr@radleysolutions.co.za
Hugo Groenewalt	Neighbour	082 569 7205 simonesteyn111@gmail.com
Jaco Muller	Neighbour	082 417 5185 jaco.muller72@gmail.com

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No comments were received from I&APs	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Fezile Dabi District Municipality	Mcebo Mkhatshwa	(016) 970 8607		mcebom@feziledabi.gov.za	PO Box 10, Sasolburg, 1947
Mafube Local Municipality	Issac Ngozo	083 505 5945		isaacngozo@gmail.com	P.O Box 2 Frankfort 9830
Department of Water and Sanitation	Mr Rapelang	012 392 1354 082 923 9742		rapelangk@dws.gov.za	

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 as amended and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A (2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	Direct impacts:		
	Positive impacts	High	None
	Air quality and disturbance	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Surface and groundwater pollution	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc. Stormwater will be directed around the site. Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.
	Sewage and domestic waste	Low	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of

Activity	Impact summary	Significance	Proposed mitigation
			soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
	Soil compaction, loss of fertility and increased erosion	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e. Diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be Rehabilitated concurrent with construction.
	Fires	Low	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Safety	Low	Access to the construction site to be controlled at all times.
	Aesthetics	Low	If needed, an additional line of trees will be planted to minimise visual impact.
	Cumulative impacts:		
	Direct impacts: None		
	Indirect impacts: None		
	Cumulative impacts: None		

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
	Direct impacts:		
	Positive impacts	High	None
	Air quality and disturbance	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Surface and groundwater pollution	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc. Stormwater will be directed around the site. Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.
	Sewage and domestic waste	Low	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
	Soil compaction, loss of fertility and increased erosion	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e. Diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be Rehabilitated concurrent with construction.
	Fires	Low	Cooking and heating fires

Activity	Impact summary	Significance	Proposed mitigation
			permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Disturbance of flora	High	Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
	Removal of indigenous vegetation	High	In the event of any Protected or Declining species being recorded within the approved development site, permission for the removal of such species should be obtained from the Permitting Office of DESTEA, and the appropriate in situ and / or ex situ conservation measures should be developed and implemented with the approval of the DESTEA conservation authorities. Where feasible, protected or Declining species can be translocated to degraded or untransformed parts of the study area which provide potentially suitable habitat, but such translocations will have to be carried out in a way that ensures no ecological degradation of the host habitat occurs, and will have to be evaluated by an ecologist for each species and each potential translocation area. Alternatively, protected or Declining species can be

Activity	Impact summary	Significance	Proposed mitigation
			rescued and donated to appropriate conservation and research institutions such as the Walter Sisulu National Botanical Garden (Roodepoort) or the Pretoria National Botanical Garden of SANBI Where possible, development should avoid habitat identified with high ecological sensitivity. According to the AIS regulations all declared alien weeds must be effectively controlled or eradicated.
	Safety	Low	Access to the construction site to be controlled at all times.
	Aesthetics	Low	If needed, an additional line of trees will be planted to minimise visual impact.
	Cumulative impacts:		
	Direct impacts: None		
	Indirect impacts: None		
	Cumulative impacts: None		

Activity	Impact summary	Significance	Proposed mitigation
Alternative S1			
	Direct impacts:		
	Positive impacts	High	None
	Air quality and disturbance	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Surface and groundwater pollution	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils,

Activity	Impact summary	Significance	Proposed mitigation
			grease, oil filters, rags, etc. Stormwater will be directed around the site. Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.
	Sewage and domestic waste	Low	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the Nearest municipal waste-disposal site as part of existing waste management system.
	Soil compaction, loss of fertility and increased erosion	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e. Diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be Rehabilitated concurrentwith construction.
	Fires	Low	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Safety	Low	Access to the construction site to be controlled at all times.
	Aesthetics	Low	If needed, an additional line of trees will be planted to minimise visual impact.

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts: None		
	Cumulative impacts: None		
	Operational Phase		
	Manure	Low	Manure will be sprayed as fertilizer on agricultural fields and will not be stockpiled.
	Mortalities	Low	The mortalities are removed on a daily basis and is collected by a predator farmer (Letsatsi L'Africa).
	Indirect impacts: None		
	Cumulative impacts: None		

No-go option			
	Direct impacts:		
	Positive impacts	Low	None
	Air quality and disturbance	Low	None
	Surface and groundwater pollution	Low	None
	Sewage and domestic waste	Low	None
	Soil compaction, loss of fertility	Low	None
	and increased erosion		
	Fires	Low	None
	Disturbance of fauna	Low	None
	Safety	Low	None
	Aesthetics	Low	None
	Manure	Low	None
	Mortalities	Low	None
	Indirect impacts: None		
	Cumulative impacts: None		

A complete impact assessment in terms of Regulation 19(3) of GN 326 must be included as Appendix F.

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment <u>after</u> the management and mitigation of impacts have been taken into account, with

specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative S1:

Impact no: (As described in paragraphs 3 and 4 above)	Extent	Duration	Intensity	Probability	Significance	
	Site Regional National	Short Medium Long	Low Medium High	Improbable Probable Definite	Low Medium High	
					Unmitigated	Mitigated
CONSTRUCTION PHASE						
1.Positive impacts	Site and Regional	Short	Low	Definite	High	High
2. Air quality and disturbance	Site	Short	Medium	Definite	Medium	Low
3. Surface and ground water	Site	Short	Low	Improbable	Low	Low
4. Uncontrolled sewage and domestic waste	Site	Short	High	Improbable	High	Low
5. Soil compaction, loss of fertility and increased erosion	Site	Long	Medium	Probable	High	Low
6. Fires	Site and Regional	Short	High	Improbable	High	Low
7. Disturbance of fauna	Site	Long	High	Definite	Low	Low
8. Safety	Site	Short	High	Probable	High	Low
9. Aesthetics	Site and Regional	Long	Low	Definite	Low	Low
OPERATIONAL PHASE						
1. Sewage, waste and litter	Site	Long	High	Definite	High	Low
2. Manure	Site	Long	High	Definite	High	Low
3. Wash water and possible pollution of water	Site and Regional	Long	High	Improbable	High	Low
4. Mortalities	Site	Long	High	Definite	High	Low
5. Air pollution	Site and Regional	Long	Medium	Improbable	Medium	Low
6. Positive impacts	Site and Regional	Long	Medium	Definite	High	High

Alternative A1						
Impact no: (As described in paragraphs 3 and 4 above)	Extent	Duration	Intensity	Probability	Significance	
	Site Regional National	Short Medium Long	Low Medium High	Improbable Probable Definite	Low Medium High	
					Unmitigated	Mitigated
CONSTRUCTION PHASE						
1.Positive impacts	Site and Regional	Short	Low	Definite	High	High
2. Air quality and disturbance	Site	Short	Medium	Definite	Medium	Low
3. Surface and ground water	Site	Short	Low	Improbable	Low	Low
4. Uncontrolled sewage and domestic waste	Site	Short	High	Improbable	High	Low
5. Soil compaction, loss of fertility and increased erosion	Site	Long	Medium	Probable	High	Low
6. Fires	Site and Regional	Short	High	Improbable	High	Low
7. Disturbance of fauna	Site	Long	High	Definite	Low	Low
8. Safety	Site	Short	High	Probable	High	Low
9. Aesthetics	Site and Regional	Long	Low	Definite	Low	Low
OPERATIONAL PHASE						
1. Sewage, waste and litter	Site	Long	High	Definite	High	Low
2. Manure	Site	Long	High	Definite	High	Low
3. Wash water and possible pollution of water	Site and Regional	Long	High	Improbable	High	Low
4. Mortalities	Site	Long	High	Definite	High	Low
5. Air pollution	Site and Regional	Long	Medium	Improbable	Medium	Low
6. Positive impacts	Site and Regional	Long	Medium	Definite	High	High
Impact no: (As described in paragraphs 3 and 4 above)	Extent	Duration	Intensity	Probability	Significance	
	Site Regional National	Short Medium Long	Low Medium High	Improbable Probable Definite	Low Medium High	
					Unmitigated	Mitigated

No-go alternative (compulsory)

Impact no:	Extent	Duration	Intensity	Probability	Significance

(As described in paragraphs 3 and 4 above)	Site Regional National	Short Medium Long	Low Medium High	Improbable Probable Definite	Low Medium High	
					Unmitigated	Mitigated
CONSTRUCTION PHASE						
1.Positive impacts	Site	Short	Low	Improbable	High	High
2. Air quality and disturbance	Site	Short	Medium	Definite	Medium	Medium
3. Surface and ground water	Site	Short	Low	Improbable	Low	Low
4. Uncontrolled sewage and domestic waste	Site	Short	High	Improbable	Low	Low
5. Soil compaction, loss of fertility and increased erosion	Site	Medium	Medium	Definite	Low	Low
6. Fires	Site and Regional	Short	High	Improbable	High	Low
7. Disturbance of fauna	Short	Long	High	Definite	Low	Low
8. Safety	Site	Short	High	Improbable	Low	Low
9. Aesthetics	Site and Regional	Short	Low	Definite	Low	Low
OPERATIONAL PHASE						
1. Sewage, waste and litter	Site	Long	High	Improbable	Low	Low
2. Manure	Site	N/A	High	Improbable	High	Low
3. Wash water and possible pollution of water	Site and Regional	N/A	High	Improbable	High	Low
4. Fat and organic solid waste	Site	N/A	High	Improbable	High	Low
5. Air pollution	Site and Regional	Short	Medium	Definite	Medium	Medium
6. Positive impacts	Site and Regional	Long	Medium	Improbable	High	High

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES √	NO

If “NO”, indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

Is an EMPr attached?	YES √	NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Dr Helen Prinsloo

_____

NAME OF EAP

_____ 29/02/2024

SIGNATURE OF EAP DATE

SECTION F: APPENDICES

The following appendixes must be attached:

Appendix A: Maps √

Appendix B: Photographs √

Appendix C: Facility illustration(s) √

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation √

Appendix F: Impact Assessment √

Appendix G: Environmental Management Programme (EMPr) √

Appendix H: Details of EAP and expertise √

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information (to be included in FBAR)

Appendix A

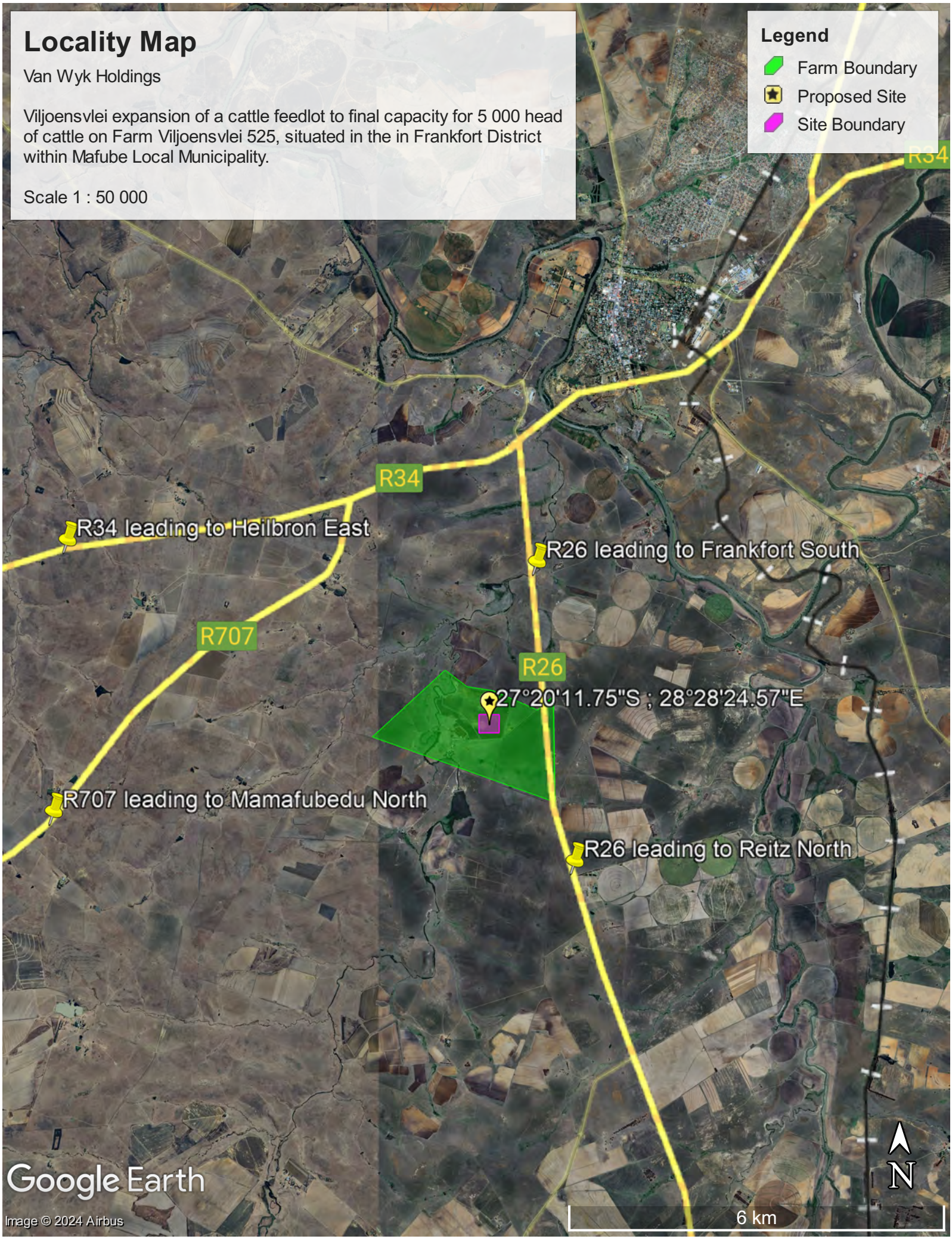
Maps

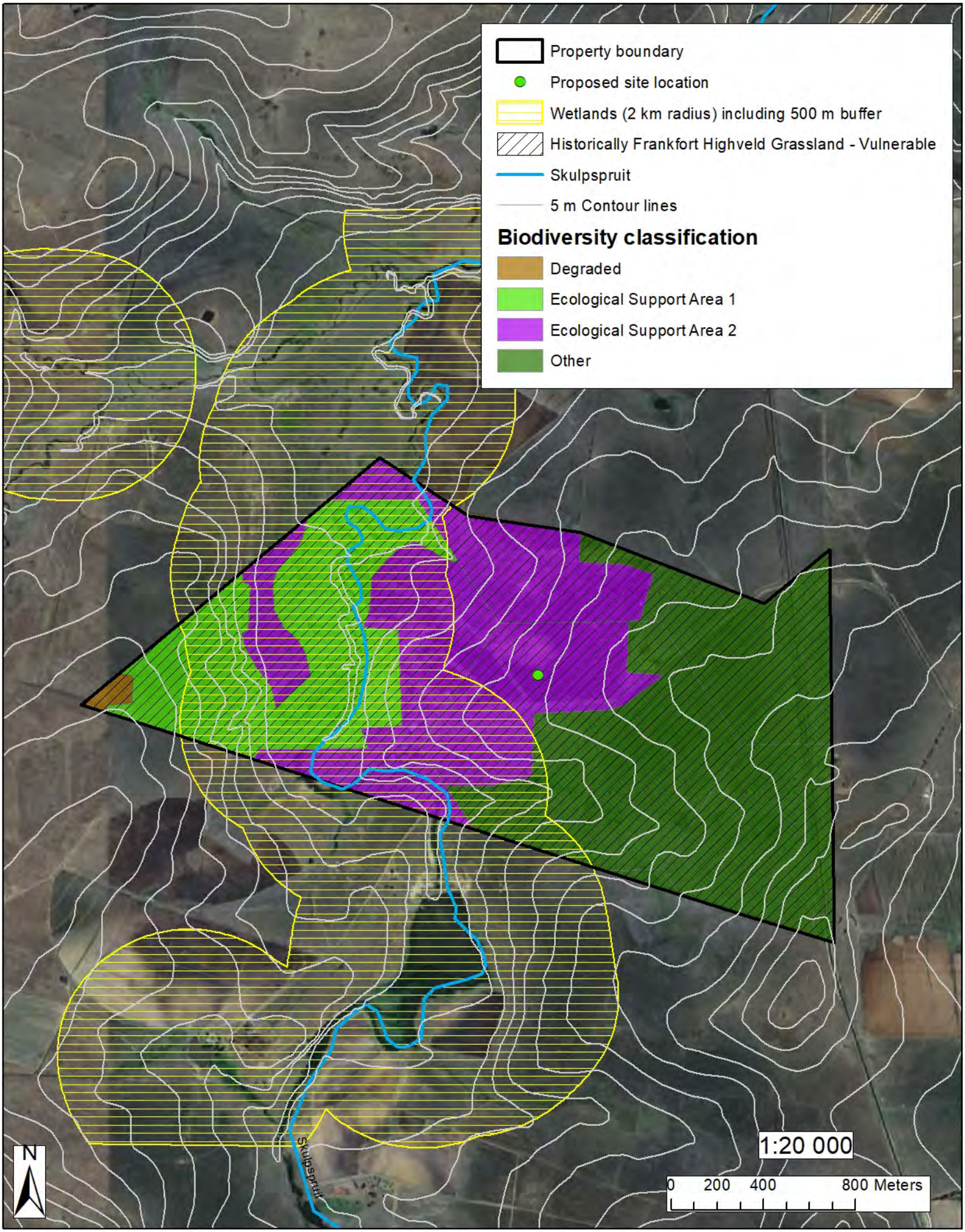
Locality Map

Van Wyk Holdings

Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle on Farm Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality.

Scale 1 : 50 000





Ecological sensitivity map for the proposed development on the farm Viljoensvlei 525

February 2024
Created by:

BUCANDI
ENVIRONMENTAL SOLUTIONS

Property boundary

Proposed site boundary

Wetlands (2 km radius) including 500 m buffer

Historically Frankfort Highveld Grassland - Vulnerable

Skulpspruit

5 m Contour lines

Biodiversity classification

Degraded

Ecological Support Area 1

Ecological Support Area 2

Other

Skulpspruit

N

1:15 000

0 245 490 980 Meters

Layout plan for the proposed development on the farm Viljoensvlei 525

February 2024
Created by:

BUCANDI
ENVIRONMENTAL SOLUTIONS

Appendix B

Photographs

Site Photographs

Direction North

Direction Northeast

Direction East

Direction Southeast

Direction South

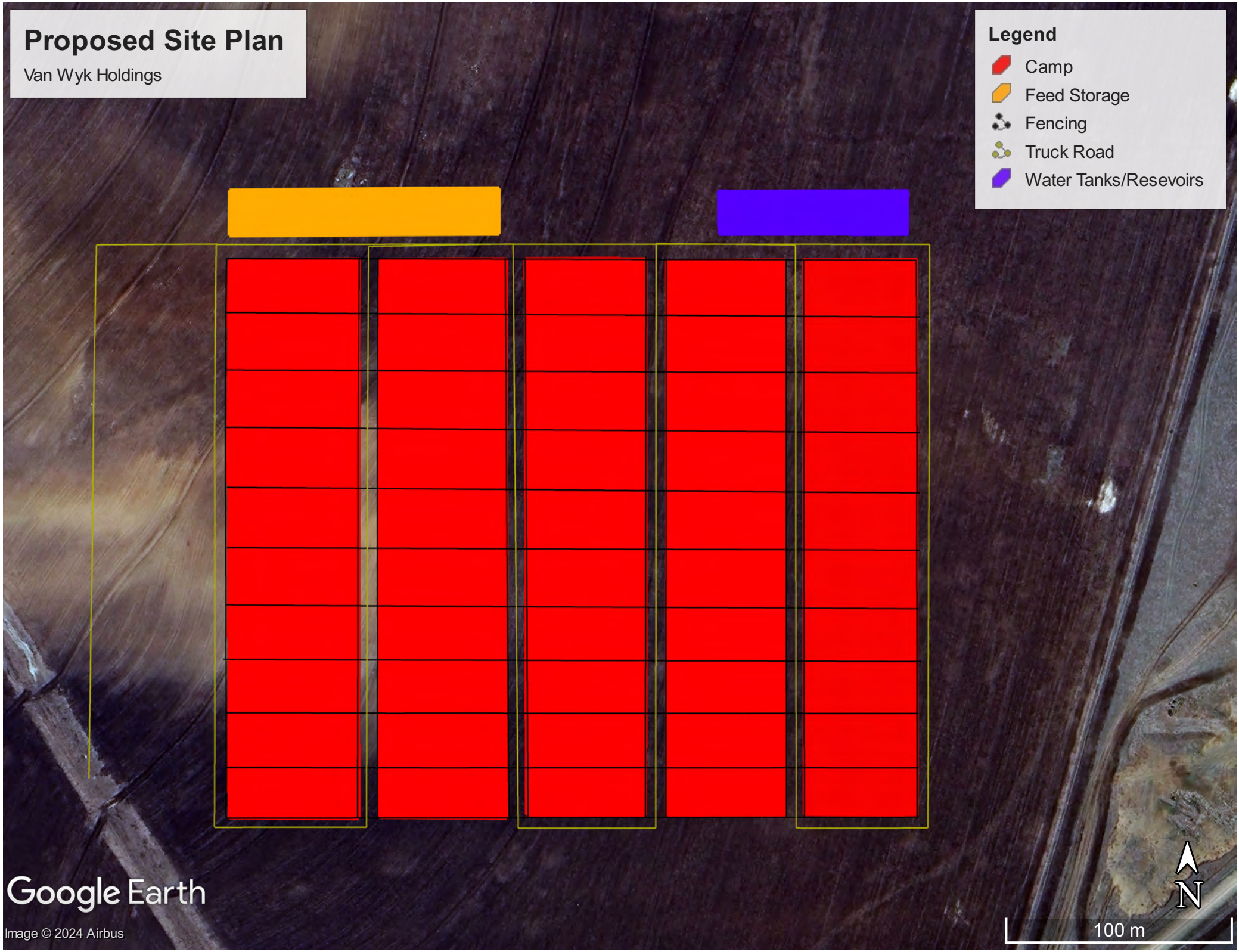
Direction Southwest

Direction West

Direction Northwest

Appendix C

Facility illustration


Proposed Site Plan
Van Wyk Holdings
Legend
Camp
Feed Storage
Fencing
Truck Road
Water Tanks/Resevoirs
Google Earth
Image © 2024 Airbus
N
100 m

Appendix E1

Relevant advertisement and notices

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Notice is given in terms of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014 of Government Notice No. R327 in Government Gazette No. 38282 of 4 December 2014 as amended April 2017 under the National Environmental Management Act, Act 107 of 1998 of intent to carry out the following activity:

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(ACTIVITY NO.39) The expansion and related operation of facilities for the concentration of animals in densities that will exceed (i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units.

PROJECT TITLE AND DESCRIPTION: Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle.

LOCATION: Farm Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality.

OFFICIAL: Free State Department of Economic Small Business Development Tourism and Environmental Affairs, Telephone number 051 400 9593

CONSULTANT: Bucandi Environmental Solutions, PO Box 317, Viljoenskroon, 9520. Tel 076 422 3484, Fax 086 551 1894, E-Mail info@bucandi.co.za

DATE OF NOTICE: 13 March 2023 in order to ensure that you are identified as an Interested or Affected Party, please submit your name, contact information and environmental interest in the matter to the consultant before 13 April 2023.

ATKV-Frankfort raap toekenning op

FRANKFORT - Die ATKV Frankfort-tak het op 8 Maart 'n toekenning ontvang vir beste braai by Residentia Wilgerus. Die toekenning, wat deel van 'n projek vorm is deur streekskoördineerder, Coenraad van Rensburg oorhandig.

Die plaaslike tak het ook nuwe bestuurspan: Lelia Etzebeth (voorsitster), Willie Jacobs (ondervoositter), Kotie Ungerer (sekretaris), Andre Tredoux (tesourier), Johan vd Westhuizen en Carleen Pretorius (addisionele lede)

Skole meet kragte op wintersportdag

Wilgies se 'Pompom Meisies' se eerste optrede tydens die Wintersportdag. Trots geborg deur Boere Bande.

FRANKFORT - Hoërskool Wilgerivier het op 10 en 11 Maart 'n suksesvolle wintersportdag aangebied. Rugby, netbalspan en hokkiespelers het ywerig teen mekaar meegeding. Elke span het ongeveer wedstryde deelgeneem en basiese vaardighede en sportmangees ten toon gestel. Baie dankie aan al die ouers vir die ondersteuning. Spanne het gemengde uitslae behaal.

Tessie Muller skryf: "Wat 'n spesiale twee dae en advertensie vir ons dorp. As oud Wigie-ouers, kan ons nie anders as om verstom te staan wat hier in Frankfort ontwikkel nie. Hier is 'n plattelandse skool, met sekerlik die mooiste en beste fasiliteite in die land.

"Asook 'n gemeenskap wat die dorp en skool onomwonde ondersteun. Dankie aan die bestuurspan en SW en jou beheerliggaam, vir wat julle vermag. Dit is ongelooflik, ons het groot waardering daarvoor!"

Rolbalklub is bedrywig

Estelle Oosthuyse.

FRANKFORT - Op die foto bo: Die span wat Noord-Vrystaat verteenwoordig het in Oudshoorn van 6 tot 10 Maart tydens Provinsiale-kampioenskappe. Baie geluk aan Estelle Oosthuyse wat gekies was vir die span. Dit was 'n ontsagwekkende week van goeie rolbal. Boland verower die goue medalje. Port Natal kry silwer. OP kry brons. Noord-Vrystaat eis brons met 2 punte. Rolbal as sport groei geweldig veral onder die jonger geslag. Frankfort Rolbalklub nooi mense wat belangstel om aan te sluit en die spel te kom geniet

Pierre de Bruyn en SJ Enslin speel nawedstryd van 4 en 5 Maart op Kroonstad vir die Noord-Vrystaat Flaminke span teen Suid-Vrystaat. Baie geluk, hulle het goed gevaar, maar nie gewen nie.

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DATE OF NOTICE: 13 March 2023 in order to ensure that you are identified as an Interested or Affected Party, please submit your name, contact information and environmental interest in the matter to the consultant before 13 April 2023.

Appendix E2

Proof of letters to stakeholders

Dear Mr. Andries Radley 13 March 2023

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. According to the National Environmental Management Act (Act 107 of 1998) I am hereby, as the EAP, providing you with official notice of the intended project. Please note that you have thirty (30) days to table any concerns or questions regarding the project in writing to me.
I trust that you will find everything in order. Please don't hesitate to contact me if you have any questions.
The following is the legal notice that was placed in the local newspaper (Frankfort Herald).

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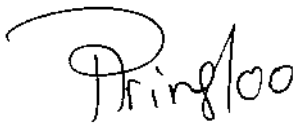
DATE OF NOTICE: 13 March 2023 in order to ensure that you are identified as an Interested or Affected Party, please submit your name, contact information and environmental interest in the matter to the consultant before 13 April 2023.
Best regards



Hélen Prinsloo
Ecologist and owner

Phone Helen: 076 682-4369
Phone Anton: 076 422 3484
Fax: 086 551-1894
E-mail: helen@bucandi.co.za
E-mail: info@bucandi.co.za

Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

Dear Mr. Hans Pretoruis 13 March 2023

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. According to the National Environmental Management Act (Act 107 of 1998) I am hereby, as the EAP, providing you with official notice of the intended project. Please note that you have thirty (30) days to table any concerns or questions regarding the project in writing to me. I trust that you will find everything in order. Please don't hesitate to contact me if you have any questions. The following is the legal notice that was placed in the local newspaper (Frankfort Herald).

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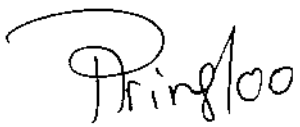

Hélen Prinsloo
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E-mail: info@bucandi.co.za

Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

Dear Mr. Hugo Groenewalt 13 March 2023

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. According to the National Environmental Management Act (Act 107 of 1998) I am hereby, as the EAP, providing you with official notice of the intended project. Please note that you have thirty (30) days to table any concerns or questions regarding the project in writing to me. I trust that you will find everything in order. Please don't hesitate to contact me if you have any questions. The following is the legal notice that was placed in the local newspaper (Frankfort Herald).

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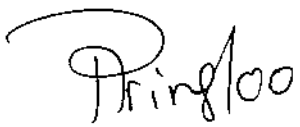
Best regards



Hélen Prinsloo
Ecologist and owner

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E-mail: info@bucandi.co.za

Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

From:	Marika Smook
To:	"jaco.muller72@gmail.com"
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:09:00
Attachments:	Jaco Muller.pdf

Good day Mr. Muller

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

BUCANDI
ENVIRONMENTAL SOLUTIONS
Environmental concerns? Consider it solved!

From: Marika Smook
To: "simonesteyn111@gmail.com"
Subject: INFORMATION LETTER - VAN WYK BOERDERY
Date: Tuesday, 14 March 2023 14:08:00
Attachments: Hugo Groenewalt.pdf

Good day Mr. Groenewalt

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

From:	Marika Smook
To:	"andriesr@radleysolutions.co.za"; Andries Radley; Radley Business Solutions
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:07:00
Attachments:	Andries Radley.pdf

Good day Mr. Radley

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

From:	Marika Smook
To:	"hansleeu@gmail.com"
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:06:00
Attachments:	Hans Pretorius.pdf

Good day Mr Pretorius

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

BUCANDI
ENVIRONMENTAL SOLUTIONS
Environmental concerns? Consider it solved!

Dear Mr. Jaco Muller 13 March 2023

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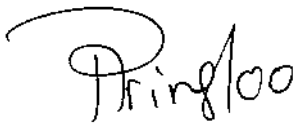

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E-mail: info@bucandi.co.za

Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

Appendix E3

Comments and responses report

Comments and responses report

1. Interested and Affected Parties

Name	Telephone number	Address
Hans Pretorius	082 828 5266	hansleeu@gmail.com
Andries Radley	079 493 1144	andriesr@radleysolutions.co.za
Hugo Groenewalt	082 569 7205	simonesteyn111@gmail.com
Jaco Muller	082 417 5185	jaco.muller72@gmail.com
Fezile Dabi District Municipality (Mcebo Mkhatshwa Mr)	(016) 970 8607	PO Box 10, SASOLBURG, 1947 mcebom@feziledabi.gov.za
Mafube Local Municipality Issac Ngozo	083 505 5945	isaacngozo@gmail.com
Ward 7 Mafube Local Municipality		
DWS (Mr Rapelang)	012 392 1354 082 923 9742	rapelangk@dws.gov.za

2. On 13th March 2023 an advertisement was placed in Frankfort Herald newspaper and on 13th March 2023 e-mails were sent to stakeholders. Comments received during the 30-day public participation will be addressed in the DBAR. A copy of the DBAR will be sent to all I&AP's.

Appendix E4

Proof of letters to authorities and organs of state

Dear Mr. Mr Rapelang 13 March 2023

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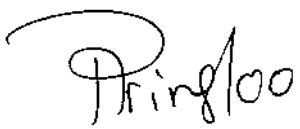
LOCATION: Farm Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality.

OFFICIAL: Free State Department of Economic Small Business Development Tourism and Environmental Affairs, Telephone number 051 400 9593.

CONSULTANT: Bucandi Environmental Solutions, PO Box 317, Viljoenskroon, 9520. Tel 076 422 3484, Fax 086 551 1894, E-Mail info@bucandi.co.za

DATE OF NOTICE: 13 March 2023 in order to ensure that you are identified as an Interested or Affected Party, please submit your name, contact information and environmental interest in the matter to the consultant before 13 April 2023.

Best regards



Hélen Prinsloo
Ecologist and owner

Phone Helen: 076 682-4369
Phone Anton: 076 422 3484
Fax: 086 551-1894
E-mail: helen@bucandi.co.za
E-mail: info@bucandi.co.za

Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

Dear Mr. Mcebo Mkhatshwa 13 March 2023

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. According to the National Environmental Management Act (Act 107 of 1998) I am hereby, as the EAP, providing you with official notice of the intended project. Please note that you have thirty (30) days to table any concerns or questions regarding the project in writing to me. I trust that you will find everything in order. Please don't hesitate to contact me if you have any questions. The following is the legal notice that was placed in the local newspaper (Frankfort Herald).

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Notice is given in terms of the Environmental Impact Assessment Regulations Listing Notice 1 of 2014 of Government Notice No. R327 in Government Gazette No. 38282 of 4 December 2014 as amended April 2017 under the National Environmental Management Act, Act 107 of 1998 of intent to carry out the following activity:

(ACTIVITY NO.28) Residential, mixed, retail, commercial, industrial or institutional development where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare.

(ACTIVITY NO.39) The expansion and related operation of facilities for the concentration of animals in densities that will exceed (i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units.

PROJECT TITLE AND DESCRIPTION: Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle.

LOCATION: Farm Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality.

OFFICIAL: Free State Department of Economic Small Business Development Tourism and Environmental Affairs, Telephone number 051 400 9593.

CONSULTANT: Bucandi Environmental Solutions, PO Box 317, Viljoenskroon, 9520. Tel 076 422 3484, Fax 086 551 1894, E-Mail info@bucandi.co.za

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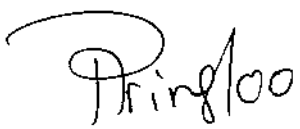

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Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

From:	Marika Smook
To:	"pinkiemahlophe@gmail.com"
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:10:00
Attachments:	Mafube Local Municipality.pdf

Good day

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

From:	Marika Smook
To:	"mcebom@feziledabi.gov.za"
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:10:00
Attachments:	Fezile Dabi District Municipality.pdf

Good day

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

From:	Marika Smook
To:	"rapelangk@dws.gov.za"
Subject:	INFORMATION LETTER - VAN WYK BOERDERY
Date:	Tuesday, 14 March 2023 14:11:00
Attachments:	DWS.pdf

Good day

Please see attached an information letter for your attention.

Kind Regards/Vriendelike Groete

Marika Smook
Bucandi Environmental Solutions
076 422 3484

BUCANDI
ENVIRONMENTAL SOLUTIONS
Environmental concerns? Consider it solved!

Dear Mr. Pinkie Mahlophe 13 March 2023

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. According to the National Environmental Management Act (Act 107 of 1998) I am hereby, as the EAP, providing you with official notice of the intended project. Please note that you have thirty (30) days to table any concerns or questions regarding the project in writing to me. I trust that you will find everything in order. Please don't hesitate to contact me if you have any questions. The following is the legal notice that was placed in the local newspaper (Frankfort Herald).

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CONSULTANT: Bucandi Environmental Solutions, PO Box 317, Viljoenskroon, 9520. Tel 076 422 3484, Fax 086 551 1894, E-Mail info@bucandi.co.za

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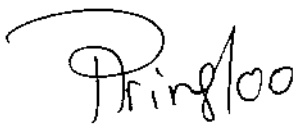

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Reg. nr. 2009/087537/23

P.O. Box 317
Viljoenskroon
9520

Appendix E5

List of registered I&APs

List of registered I & AP

Name	Contact Details	Designation	Comments received (Y/N)	Relevant section
Hans Pretorius	082 828 5266	Neighbour	N	N/A
Andries Radley	079 493 1144	Neighbour	N	N/A
Hugo Groenewalt	082 569 7205	Neighbour	N	N/A
Jaco Muller	082 417 5185	Neighbour	N	N/A
Mafube Local Municipality (Issac Ngozo)	083 505 5945	Local Municipality	N	N/A
Fezile Dabi District Municipality (Mcebo Mkhatshwa Mr)	016 970 8600 016 970 8735	District Municipality	N	N/A
DWS (Mr Rapelang)	012 392 1354 082 923 9742	Department of Water & Sanitation	N	N/A

Appendix F

Impact Assessment

Impact Assessment

1. Potential impacts

The impact assessment in this section considered the following activities and the impact of each of the activities:
Activity 1: The utilisation of approximately 7 ha of agricultural land.
Activity 2: Earthworks on a total of 7.5 ha to prepare for the construction of the cattle feedlot.
Activity 3: Construction of the cattle feedlot.
Activity 4: Operation of the cattle feedlot.

1.1 Full description of impacts and risks identified

Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts and the degree to which these impacts can be mitigated

1.1.1 Activity alternative 1 – Construction of cattle feedlot with capacity for 5 000 head of cattle (preferred activity)

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
1-3	Air pollution on a local level.	2	1	2	1	3	Low	Negative	This impact is not reversible, but can be completely avoided by the following measures: Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
1-3	Contamination of soils, surface water and groundwater	1	1	2	3	3	Low	Negative	This impact is not reversible, but can be completely avoided by the following measures:

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
	due to leakages from vehicles entering and exiting the site.								Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
3, 4	Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	3	3	3	2	3	Medium	Negative	This impact is not reversible, but can be completely avoided by the following measures: Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
4	Pollution of soil, surface water and groundwater due to ineffective manure disposal.	3	3	3	2	3	Medium	Negative	This impact is not reversible, but can be completely avoided by the following measures: Manure will be sprayed as fertilizer on agricultural fields and will not be

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
									stockpiled.
4	Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities.	3	3	3	2	3	Medium	Negative	This impact is not reversible, but can be completely avoided by the following measures: The mortalities are removed on a daily basis and collected by a predator farmer.
1-4	Soil compaction and loss of fertility.	1	1	2	3	3	Low	Negative	This impact is not reversible, but can be completely avoided by the following measures: Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e. diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
3, 4	Increased fire risk	1	1	2	3	3	Low	Negative	This impact is not reversible, but can be completely avoided by the following measures: Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
									legislation.
1-4	Disturbance of fauna	3	3	3	2	3	Medium	Negative	This impact is not reversible, but can be completely avoided by the following measures: Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
1-4	Disturbance of flora	1	5	5	1	5	High	Negative	This impact is not reversible and cannot be avoided. Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
1-3	Safety on the construction site	4	5	5	3	3	High	Negative	This impact is not reversible, but can be completely avoided by the following measures: Access to the construction site to be controlled at all times.
1-4	Degradation of aesthetics	3	5	3	2	4	High	Negative	This impact is not reversible, but can be mitigated and minimised. If needed, an additional line of trees will be planted to minimise visual impact.
1-4	The construction and operation of the	4	4	3	1	5	High	Positive	No mitigation suggested.

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
	cattle feedlot will provide employment opportunities to the local communities.								

1.1.2 "No-go" alternative – Grazing

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
N/A	Air pollution on a local level.	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Pollution of soil, surface water and groundwater due to ineffective management of sewage and general	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site.

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
	waste management.								No mitigation recommended.
N/A	Pollution of soil, surface water and groundwater due to ineffective manure disposal.	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Pollution of soil, surface water and groundwater due to ineffective disposal carcasses.	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Soil compaction and loss of fertility.	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Increased fire risk	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation

*Activity	Specific Impact & Risk	Extent	Duration	Severity	Degree of Certainty	Probability	Significance prior to mitigation	Status of Impact	Reversibility/Mitigation Measures to be Implemented
									recommended.
N/A	Disturbance of fauna	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Safety on the construction site	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.
N/A	Degradation of aesthetics	2	1	2	1	3	Low	Negative	No additional activity will take place, only agriculture that already exists on the site. No mitigation recommended.

1.2 Methodology of determining impacts

- Various site visits were conducted by the EAP and information was gathered regarding the nature of the process and the baseline environment.
- Comments were gathered from Marico River Conservation Association in order to identify additional possible impacts that may have been overlooked.
- The significance of identified impacts was determined as follows:

- **Extent**

The extent of the impact refers to the spatial dimension to which an impact will be felt (i.e. site, study area, local, regional, or national scale). The criteria for rating the impact extent are described in more detail in Table 1.

Table 1: Extent of Impact

Extent					
Rating	1	2	3	4	5
Description	On site or the impact will be restricted to its immediate area	Study area Or the impact will be restricted to the site or route	Local Or the impact will affect an area up to 5 km from the site and route	Regional/Provincial Or the impact will be felt on a Local, district municipal or Provincial level	National/International Or the maximum extent of any impact

- **Duration**

In order to accurately describe the impact it is necessary to understand the duration and persistence of an impact in the environment. The criteria for rating the duration of the impact is described in more detail in Table 2.

Table 2: Duration of Impact

Duration					
Rating	1	2	3	4	5
Description	Temporary Or the impact will occur very sporadically or less than 1 year from commencement	Short-term Or the impact will continue to occur for a period between 1 to 5 years from commencement of activity	Medium term Or the impact will continue to occur for a period between 5 to 10 years from commencement of activity	Long term Or the impact will continue to occur for a period longer than 10 years from commencement of activity	Permanent Or the impact will be continue until the conclusion of activity

	of activity				

- **Severity**

A description must be given as to whether an impact is destructive, or benign. It determines whether the intensity of the impact on the natural environment or society is permanently, significantly changes its functionality, or slightly alters it. The mitigation potential must be determined for each impact. If limited information or expertise exists, estimates based on experience will be made. The criteria for rating the severity of the impact are described in more detail in Table 3.

Table 3: Severity of Impact

Severity					
Rating	1	2	3	4	5
Description	Temporary impact easily reversible. Insignificant change or deterioration or disturbance Or improvement of natural and social environments	Short-term impact. Low cost to mitigate Small Moderate change or deterioration or disturbance Or improvement of natural and social environments	Medium term impact, which require substantial cost to mitigate. Potential to mitigate and potential to reverse impact Significant change or deterioration or disturbance Or improvement of natural and social environments	Long term impact High cost to mitigate Possible to mitigate Very significant change or deterioration or disturbance Or improvement of natural and social environments	Permanent impact Prohibitive cost to mitigate Little or no mechanism to mitigate Irreversible Disastrous change or deterioration or disturbance or improvement of natural and social environments

- **Degree of certainty**

As with all studies it is not possible to be 100% certain of all facts and for this reason a standard "Degree of certainty" scale is used as discussed in Table 4.

Table 4: Degree of Certainty of Impact Occurrence

Degree of Certainty					
Rating	1	2	3	4	5
Description	Definite Or more than 90% sure of the fact or the likelihood of the impact occurring	Probable Or between 70% and 90% sure of the fact or the likelihood of the impact occurring	Possible Or between 40% and 70% sure of the fact or the likelihood of the impact occurring	Unsure Or less than 40% sure of a the fact or the likelihood of the impact occurring.	Unknown or the consultant or specialist believes an assessment is not possible even with additional research.

- **Probability**

The criteria used for rating the likelihood of impact occurrence are described in more detail in Table 5.

Table 5: Probability of Impact Occurrence

Probability					
Rating	1	2	3	4	5
Description	Impossible Or the impact will not	Improbable Or the possibility of	Probable Or there is a	Highly probable Or It is most likely	Definite Or the impact will

	occur	the impact occurring is very low	possibility that the impact will occur, provision must be provided	that the impact will occur at some stage, provision must be provided	take place regardless of any prevention plans and there can only be relied on mitigation measures to contain the impact

- **Significance**

Evaluating the significance of environmental impacts is a critical component of impact analysis. The matrix uses the consequence and the probability of the different activities and associated impacts to determine the significance of the impacts. Consequence is determined by the sum total of criteria like extent, duration and severity, degree of certainty of impact as well as compliance to applicable legislation. Values of 1-5 are assigned to each of the different criteria to determine the overall consequence, which is divided by 3 to give a criterion rating.
The overall consequence and probability rating are multiplied to give a draft significance rating. The values as shown in the following table are then used to rank the significance. It must be said however that in the end, a subjective judging of an impact can still be done, but the reasons for doing so must be qualified. The matrix used to determine the significance of each of the identified impact in this study is shown in Table 6.

Table 6: Impact Significance Matrix

Impact Significance Matrix					
Rating	Very Low	Low	Medium	High	Very High
	1-4	5-10	11-15	16-20	21-25+
Description	There is little or no impact at all	Impact is of a low order and therefore likely to have little real effect In the case of adverse impacts: mitigation and or remedial activity is either easily	Impact is real but not substantial in relation to other impacts, which might take effect within the bounds of those which could occur In the case of	Impact is of substantial order within the bounds of impacts which could occur In the case of adverse impacts: mitigation and or remedial	Of the highest order possible within the bounds of impacts which could occur In the case of adverse impacts: there is no possible mitigation and or

		achieved or little will be required, or both In the case of beneficial impacts, alternative means for achieving this benefit are likely to be easier, cheaper, more effective, less time consuming, or some combination of these.	adverse impacts: mitigation and or remedial activity are both feasible and fairly easily possible In the case of beneficial impacts: other means of achieving this benefit are about equal in time, cost, effort, etc.	activity are feasible but difficult, expensive, time- consuming or some combination In the case of beneficial impacts, other means of achieving this benefit are feasible but they are more difficult, expensive, time-consuming or some combination of these.	remedial activity which could offset the impact In the case of beneficial impacts, there is no real alternative to achieving this benefit.

Table 7: How to Apply the Rating Scale

Consequence
Impact Significance = (Extent + Duration + Severity + Degree of Certainty)/3] X Probability

1.3 Summary of positive and negative impacts

Specific impact or risk	Preferred activity (Activity alternative 1)	"No-go" alternative
Air pollution on a local level.	Negative	No impact
Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Negative	Negative
Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	Negative	Negative
Pollution of soil, surface water and groundwater due to ineffective manure disposal.	Negative	No impact
Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities.	Negative	No impact
Soil compaction and loss of fertility.	Negative	No impact
Increased fire risk	Negative	No impact
Disturbance of fauna	Negative	No impact
Disturbance of flora	Negative	No impact
Safety on the construction site	Negative	No impact
Degradation of aesthetics	Negative	Negative
The construction and operation of the feedlot facility will provide employment opportunities to the local communities.	Positive	No impact

1.4 Mitigation measures

Specific impact or risk	Mitigation measures
Air pollution on a local level.	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
Pollution of soil, surface water and groundwater due to ineffective manure disposal.	Manure will be sprayed as fertilizer on agricultural fields and will not be stockpiled.

Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities.	The mortalities are removed on a daily basis and collected by a predator farmer.
Soil compaction and loss of fertility.	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e. diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
Increased fire risk	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
Disturbance of fauna	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
Disturbance of flora	Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
Safety on the construction site	Access to the construction site to be controlled at all times.
Degradation of aesthetics	If needed, an additional line of trees will be planted to minimise visual impact.
The construction and operation of the cattle feedlot will provide employment opportunities to the local communities.	No mitigation suggested.

1.5 Motivation for alternative selection

The proposed activity alternative was selected as it will have minimal impact on the environment after mitigation measures have been implemented.

1.6 Impact of activity on preferred location

The table below provides a description of the significance of each identified activity on the preferred site location throughout the life of the proposed project.

Specific risk or activity	Significance before mitigation	Significance after mitigation
Air pollution on a local level.	Low	Low
Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Low	Low
Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	Medium	Low

Pollution of soil, surface water and groundwater due to ineffective manure disposal.	Medium	Low
Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities.	Medium	Low
Soil compaction and loss of fertility.	Low	Low
Increased fire risk	Low	Low
Disturbance of fauna	Medium	Low
Disturbance of flora	High	Medium
Safety on the construction site	High	Low
Degradation of aesthetics	High	Low
The construction and operation of the cattle feedlot will provide employment opportunities to the local communities.	High	High

1.7 Description and assessment of each impact

1. **Impact:** Air pollution on a local level. Possibly caused by Activities 1-3.
This is not a cumulative impact.
Nature, significance and consequences:
Noise, dust and emissions due to excavation, stockpiling and transport of building material and removal of rubble may cause air pollution.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Study area	Short-term	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

2. **Impact:** Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site. Possibly caused by Activities 1-3.
This is not a cumulative impact
Nature, significance and consequences:
Contamination of surface and ground water can be caused by operation and servicing of light earthmoving and transport machinery, particularly oil spills and leakage.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Site specific	Temporary	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

3. **Impact:** Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management. Possibly caused by Activities 3 and 4.
This is not a cumulative impact
Nature, significance and consequences:
Uncontrolled sewage and domestic waste disposal by workers may cause surface and ground water pollution as well as unpleasant odours and possible health risks.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Local	Medium term	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

4. **Impact:** Pollution of soil, surface water and groundwater due to ineffective manure disposal. Possibly caused by Activity 4.
This is not a cumulative impact
Nature, significance and consequences:
The chicken manure is an impact of only low adverse significance since it is a natural product of farming practice. As a resource it exerts a positive impact.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Local	Medium term	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

5. **Impact:** Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities. Possibly caused by Activity 4.
This is not a cumulative impact
Nature, significance and consequences:
Disposal of chicken carcasses pose serious health, and soil and water pollution risks.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Local	Medium term	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

6. **Impact:** Soil compaction and loss of fertility. Possibly caused by Activities 1-4.
This is not a cumulative impact
Nature, significance and consequences:
Soil compaction, loss of fertility and increased erosion from unprotected slopes associated with trenches and foundations, as a result of excavation and earthmoving. This will be aggravated in the event of heavy rain.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Site specific	Temporary	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

7. **Impact:** Increased fire risk. Possibly caused by Activities 3 and 4.

This is not a cumulative impact

Nature, significance and consequences:

Uncontrolled cooking fires could cause veld fires. This would harm fauna and flora and pose a safety risk, particularly concerning vehicles and the adjacent land users.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Site specific	Temporary	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

8. **Impact:** Disturbance of fauna. Possibly caused by Activities 1-4.

This is not a cumulative impact

Nature, significance and consequences:

Temporary disturbance of fauna, becoming permanent as operational phase commences. This impact is unavoidable, but of low significance since there are no endangered species present.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Local	Medium term	Probable	Not reversible	No	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

9 **Impact:** Disturbance of flora. Possibly caused by Activities 1-3.

This is not a cumulative impact

Nature, significance and consequences:

Indigenous vegetation will be cleared within the proposed site boundary. This impact is unavoidable, but of low significance since there are no endangered species present.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Site	Long term	Definite	Not reversible	No	This impact is not reversible, but can be kept to a minimum by implementing mitigation measures.

10. **Impact:** Safety on the construction site. Possibly caused by Activities 1-3.

This is not a cumulative impact

Nature, significance and consequences:

Injuries to residents and construction workers can be cause as a result of construction activities.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Regional	Permanent	Probable	Not reversible	Yes	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

11. **Impact:** Degradation of aesthetics. Possibly caused by Activities 1-4.
This is not a cumulative impact
Nature, significance and consequences:
Visual impacts may occur during the construction and operational phase as a result of vehicle exhausts, dust, bare unprotected areas, the possibility of littering and the presence of breeder houses.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Local	Permanent	Probable	Not reversible	Yes	This impact is not reversible, but can be completely avoided by implementing mitigation measures.

12. **Impact:** Economic benefit to the local communities. Possibly caused by Activities 1-4.
This is not a cumulative impact
Nature, significance and consequences:
The construction and operation of the breeder facility will provide employment opportunities to the local communities.

Extent	Duration	Probability	Reversibility	Irreplaceable loss	Degree of avoidance, management or mitigation
Regional	Long term	Probable	Not reversible	No	No avoidance or mitigation required.

8.8 Summary of specialist reports

No Specialist Studies have been conducted at this point.

Appendix G

Environmental Management Programme

Environmental Management Programme

for

VAN WYK BOERDERY
REF:

Prepared by:

Bucandi Environmental Solutions

Project Manager: Dr Hélen Prinsloo
(EAPASA 2022/5586
(*Pr.Sci.Nat.*) Reg. No. 400108/11 (SACNASP)

February 2024

Table of contents

1. DETAILS OF THE EAP

a) Contact details of EAP

Name of The Practitioner: Dr. Hélen Prinsloo

Tel No.: 076 682 4369

Fax No. : 086 551 1894

e-mail address: helen@bucandi.co.za

b) Expertise of the EAP

The qualifications of the EAP
D. Tech (Nature Conservation)

Summary of the EAP's past experience.
15 years' experience with environmental impact assessments, 3 years in the USA, 12 years in South Africa.

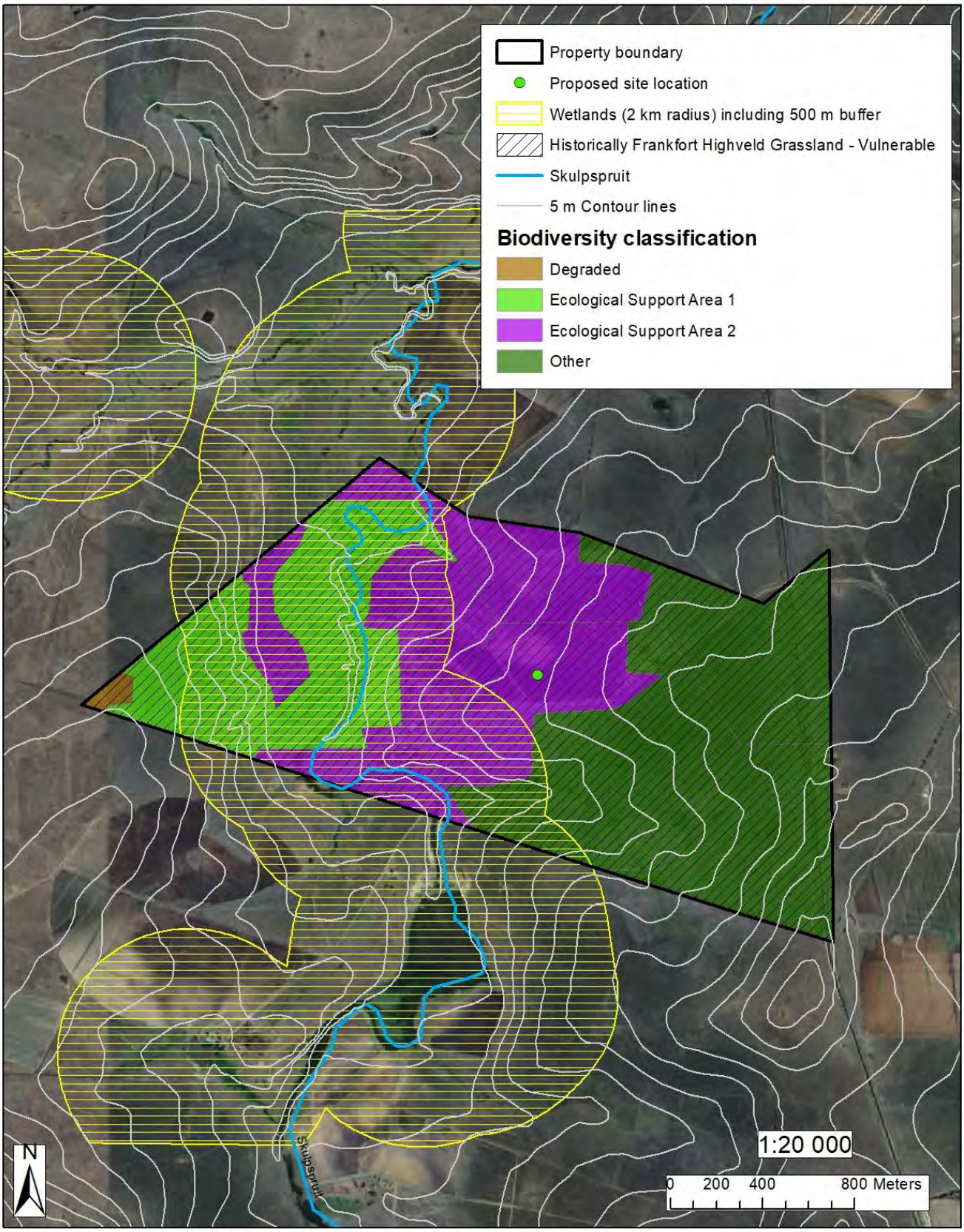
Please see CV attached as Appendix G-4 of the Basic Assessment Report.

2. DETAILED DESCRIPTION OF ASPECTS

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. The need for a Basic Assessment is triggered by Listing 1; activities 28 and 39(i) in GN R983 dated 4 December 2014 and amended on 07 April 2017.

Listing Notice 1	
(ACTIVITY NO.28) Residential, mixed, retail, commercial, industrial or institutional development where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare	Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle. The proposed site is currently in use as an agricultural field.
(ACTIVITY NO. 39) The expansion and related operation of facilities for the concentration of animals for the purpose of commercial production in densities that will exceed- (i) 20 square metres per large stock unit, where the expansion will constitute more than 500 additional units;	There is currently a small feedlot on site that has capacity for 400 head of cattle

3. ECOLOGICAL SENSITIVITY MAP OF PREFERRED SITE



Ecological sensitivity map for the proposed development on the farm Viljoensvlei 525

February 2024
Created by:

BUCANDI
ENVIRONMENTAL SOLUTIONS

4. IMPACTS AND MITIGATION MEASURES

a) Impacts identified for preferred alternative

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
Clearance of agricultural fields	Air pollution on a local level.	Low	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Low	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
	Soil compaction and loss of fertility.	Low	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e., diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
	Disturbance of fauna	Medium	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Disturbance of flora	High	Medium	Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
	Safety on the construction site	High	Low	Access to the construction site to be controlled at all times.
	Degradation of aesthetics	High	Low	If needed, an additional line of trees will be planted to minimise visual impact.

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
	Providing employment opportunities to the local community	High	High	No mitigation proposed.
Utilisation of agricultural fields.	Air pollution on a local level.	Low	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Low	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
	Soil compaction and loss of fertility.	Low	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e., diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
	Disturbance of fauna	Medium	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Disturbance of flora	High	Medium	Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
	Safety on the construction site	High	Low	Access to the construction site to be controlled at all times.
	Degradation of aesthetics	High	Low	If needed, an additional line of trees will be planted to minimise visual impact.

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
	Providing employment opportunities to the local community	High	High	No mitigation proposed.
Earthworks	Air pollution on a local level.	Low	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Low	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
	Soil compaction and loss of fertility.	Low	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e., diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
	Increased fire risk	Low	Low	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Medium	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Disturbance of flora	High	Medium	Clearance of vegetation should be kept at a minimum and restricted to the proposed

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
				site boundary.
	Safety on the construction site	High	Low	Access to the construction site to be controlled at all times.
	Degradation of aesthetics	High	Low	If needed, an additional line of trees will be planted to minimise visual impact.
	Providing employment opportunities to the local community	High	High	No mitigation proposed.
Construction of cattle feedlot	Air pollution on a local level.	Low	Low	Dust control by means of watering if necessary. Vehicles to be regularly serviced and well-tuned. Operations to be undertaken during working hours only.
	Contamination of soils, surface water and groundwater due to leakages from vehicles entering and exiting the site.	Low	Low	Machinery must be properly maintained at all times. Servicing of machinery must take place only in specific demarcated and protected areas. Measures must be taken for the proper disposal of oils, grease, oil filters, rags, etc.
	Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	Medium	Low	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
	Soil compaction and loss of fertility.	Low	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e., diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
				rehabilitated concurrent with construction.
	Increased fire risk	Low	Low	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Medium	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Disturbance of flora	High	Medium	Clearance of vegetation should be kept at a minimum and restricted to the proposed site boundary.
	Safety on the construction site	High	Low	Access to the construction site to be controlled at all times.
	Degradation of aesthetics	High	Low	If needed, an additional line of trees will be planted to minimise visual impact.
	Providing employment opportunities to the local community	High	High	No mitigation proposed.
Operation of cattle feedlot	Pollution of soil, surface water and groundwater due to ineffective management of sewage and general waste management.	Medium	Low	Proper ablution facilities must be provided i.e. chemical toilets at appropriate locations on site if necessary or existing facilities must be used. Workers must be made aware of the risk of soil water contamination. Domestic waste must be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site as part of existing waste management system.
	Pollution of soil, surface water and groundwater due to	Medium	Low	Manure will be sprayed as fertilizer on agricultural fields

Activity	Impact summary	Significance		Proposed mitigation
		Before mitigation	After mitigation	
	ineffective manure disposal.			and will not be stockpiled.
	Pollution of soil, surface water and groundwater due to ineffective disposal of mortalities.	Medium	Low	The mortalities are removed on a daily basis and is collected by a predator farmer.
	Soil compaction and loss of fertility.	Low	Low	Appropriate measures must be taken to reduce the risk of erosion from unprotected slopes i.e., diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material. All unprotected slopes must be rehabilitated concurrent with construction.
	Increased fire risk	Low	Low	Cooking and heating fires permitted only in designated areas with appropriate safety measures. Adequate firefighting equipment must be available, as prescribed by the relevant safety standards and legislation.
	Disturbance of fauna	Medium	Low	Only small animals occur in this area e.g. small rodents and reptiles. The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas. No fauna found on the site will be killed.
	Degradation of aesthetics	High	Low	If needed, an additional line of trees will be planted to minimise visual impact.
	Providing employment opportunities to the local community	High	High	No mitigation proposed.

b) Timeframes and management of mitigation

The table below lists the activities identified, mitigation measures proposed, the person responsible for the management actions, timing of actions and objectives to be reached.

Activities	Environmental Objectives	Auditable Management and Mitigation Measures	√	Person Responsible	Timing	Requirement for "sign-off" report
Planning and Design Phase						
No environmental activity will take place during this phase.						
Construction Phase						
1. Preparation of agricultural land for construction 2. Earthworks 3. Construction of cattle feedlot	Maintaining air quality and minimising disturbance caused by noise, dust and emissions.	Dust control by means of watering if necessary.		Frik van Wyk	Ongoing	Confirm compliance and justify emissions
		Vehicles to be regularly serviced and well-tuned.			Ongoing	
		Operations to be undertaken during working hours only.			Ongoing	
	Protecting the quality of surface and ground.	Machinery should be properly maintained at all times.		Frik van Wyk	Ongoing	Initialise water monitoring to take place at least quarterly.
		Servicing of machinery should take place only in specific demarcated and protected areas.			Ongoing	
		Measures should be taken for the proper disposal of oils, grease, oil filters, rags, etc.			Ongoing	
	Controlling sewage and domestic waste disposal by workers.	Proper ablution facilities should be provided i.e. chemical toilets at appropriate locations on site if necessary; else existing facilities must be used.		Frik van Wyk	Before onset of construction	Confirm compliance and monitor site to ensure that domestic waste and construction rubble has been

Activities	Environmental Objectives	Auditable Management and Mitigation Measures	√	Person Responsible	Timing	Requirement for "sign-off" report
		Workers should be made aware of the risk of soil water contamination.			Before onset of construction	removed.
		Domestic waste should be disposed of in appropriate containers, and removed to the nearest municipal waste-disposal site.			Weekly	
	Preventing fires.	Cooking and heating fires permitted only in designated areas with appropriate safety measures.		Frik van Wyk	Ongoing	Initialise and monitor a fire prevention and response plan.
		Adequate fire fighting equipment should be available, as prescribed by the relevant safety standards and legislation.			Ongoing	
	Minimising soil compaction, loss of fertility and erosion.	Appropriate measures should be taken to reduce the risk of erosion from unprotected slopes i.e. diversion berms, ponding pools, and not exceeding angles of repose of stockpiled material.		Frik van Wyk	Ongoing	Confirm compliance.
		All unprotected slopes should be rehabilitated concurrent with construction.			Ongoing	
	Controlling the temporary disturbance of fauna.	The area is surrounded by similar habitat and fauna is expected to move voluntarily to surrounding areas.		Frik van Wyk	Ongoing	Confirm compliance.
		No fauna found on the site will be killed.			Ongoing	
	Ensuring the safety of workers and the public.	Access to the construction site to be controlled at all times.		Frik van Wyk	Ongoing	Erection of safety fence and controlled entry points to the site.
	Minimising visual and audible impacts that may occur as a result of vehicle exhausts, dust and noise from machinery.	If needed, an additional line of trees will be planted to minimise visual impact.		Frik van Wyk	Before onset of construction	Establishment of a tree line.

Activities	Environmental Objectives	Auditable Management and Mitigation Measures	√	Person Responsible	Timing	Requirement for "sign-off" report
Operational Phase						
1. Operation of cattle feedlot	Managing the disposal of sewage, waste and litter.	Sewage from flush-toilets flows to a french drain.		Frik van Wyk	Ongoing	Confirm compliance with good practice.
		Household waste is removed to the nearest authorised municipal landfill site.			Weekly	
		Litter is controlled by good practice.			Ongoing	
	Disposal of cattle manure	Manure will be sprayed as fertilizer on agricultural fields and will not be stockpiled.		Frik van Wyk	After each cycle	Confirm compliance after each cycle.
	Disposal of mortalities.	The mortalities are removed on a daily basis and is collected by a predator farmer.		Frik van Wyk	Daily	Confirm compliance.
	Minimising air pollution.	Dust control by means of watering if necessary.		Frik van Wyk	Ongoing	Confirm compliance.
Decommissioning and Closure Phase						
This phase is not foreseen for this project.						

c) Monitoring and reporting

All activities identified and proposed mitigation measures should be monitored according to the following programme:

- Regular monitoring of all the environmental management measures and components must be carried out by the holder of the ROD in order to ensure that the provisions of this programme are adhered to.
- On-going and regular reporting of the progress of implementation of this programme will be done by the ECO.
- An ECO should be appointed to conduct external environmental audits every two month as long as construction is taking place and every six months once construction has been completed.

Roles and responsibilities for the execution of monitoring programmes
It is the responsibility of the holder of the ROD to appoint and ECO before any construction takes place. The ECO will then be responsible for environmental training of the contractors and employees, as well as the external environmental auditing according to the timeframe stipulated above.

Environmental Monitoring
Environmental Monitoring is the continuous evaluation of the status and condition of environmental elements. Its purpose is to detect change that takes place in the environment over time and involves the measuring and recording of physical, social and economic variables associated with development impacts. The purpose of the monitoring programme is not only to ensure conformance with the EMP through the contract/work instruction specifications but also to monitor environmental issues and impacts that have not been accounted for in the EMP that are, or could result in significant environmental impacts for which corrective action is required. Monitoring shall form part of the contract or work instruction.

Internal performance audits
It is recommended that the site manager undertake regular performance audits in accordance with the approved EMPr in which each environmental management specification will be rated in terms of the following criteria:

- Full Compliance (no action required)
- Satisfactory Performance (Some remedial/preventative actions required)
- Unsatisfactory performance (Remedial actions required)

The performance monitoring report must incorporate all compliance issues as well as corrective actions taken, permits, licenses and all contract documentation's conditions. These reports must be made available to the appointed Environmental Control Officer (ECO).

External Compliance Audits
An independent qualified ECO must be appointed to monitor the site and operations for compliance in accordance with the approved EMPr. The external compliance audits must be conducted on a two monthly basis during construction and a six monthly basis during operation.
The ultimate aim is that each environmental management specification be checked by means of a system in which a score may be allocated for:

- Full compliance
- Satisfactory performance
- Unsatisfactory performance
- No action

d) Environmental Awareness Plan

Environmental awareness training

Environmental awareness should be done as part of the induction training completed by all personnel working on the site. To ensure the training is always updated, placards containing information about environmental aspects will regularly be updated and distributed. If the ECO in his own discretion or the discretion of the site manager decide to update any environmental awareness training, he/ she will be able to do so at their own discretion.

It is recommended that the environmental awareness training be presented at least every 6 months to ensure the update of environmental goals in relation to current activities is communicated to the personnel.

The ability of the team to contain any environmental incidents is dependent on the management efficiency of the manager on site, and his ability to train and ensure his employees are knowledgeable about environmental impacts.

The contractors and applicant must ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- Explanation of the importance of complying with the EMP;
- The construction must take place in ecological sound manner, taking due cognisance of the sensitive ecological areas in close vicinity of the site (i.e. drainage channel/streams).
- The need to protect and preserve the historical and archaeological heritage of the site.
- The importance of conformance with all environmental policies and procedures;
- The significant environmental impacts, actual or potential, as a result of their activities;
- The environmental benefits of improved personal performance;

Dealing with risks and accidents

The solution to the risks involved with prospecting operations is to have all the appropriate information and planning in place before the incident occurs. This is important to ensure the correct procedures and reporting structures are followed, and the appropriate remediation steps are followed. The approved EMP shall be available on site. This EMP contains all the management plans necessary to prevent or mitigate pollution or degradation of the environment. An Incident Register and a Complaints Register should be kept on site and completed in the case of any environmentally detrimental incident happening or complaints are received. These registers should be kept and included in the internal and external reports.

Appendix H

Details of EAP

Curriculum Vitae
Hélen Prinsloo

Phone: 076 682 4369
23 Burger Street
Viljoenskroon
9520
email: helen@bucandi.co.za

Work experience:

Job title:	Owner, Ecologist and GIS Technician
Company:	Bucandi Environmental Solutions
Period:	October 2010 - current
Location:	Viljoenskroon, Free State, South Africa
Job description:	Managing my own environmental consulting business Compiling Environmental Authorisations, including Basic Assessment Reports Conducting specialist ecological studies Compile maps and conduct spatial analyses using ArcGIS 9.3 to produce deliverables for specialist studies and environmental applications.

Job title:	Environmental Scientist
Company:	Clean Stream Environmental Consultants
Period:	June 2009 – September 2010
Location:	Pretoria, Gauteng, South Africa
Job description:	Compiling the following environmental reports and applications: Basic Assessment Reports Scoping Reports Environmental Impact Assessment Environmental Management Program / Plan Integrated Water Use Licence Application Integrated Water and Waste Management Plan Conducting specialist ecological studies Leading and participating in public consultation associated with the abovementioned procedures. Compile maps and conduct spatial analyses using ArcGIS 9.2 to produce deliverables for specialist studies and environmental reports. Compiling budgets and proposals for environmental reports and applications.

Job title:	Coordinator – South African Crane Working Group (SACWG)
Company:	Endangered Wildlife Trust
Period:	January 2008 - February 2009
Location:	Howick, KwaZulu Natal, South Africa
Job description:	Review and update research strategy continuously. Formulate, prioritise and approve research projects as well as ensure acceptable quality of all research projects. Manage delivery of research work in appropriate manner with time frames. Accept overall fundraising responsibility and accountability for SACWG's sustainability. Write fundraising proposals and perform high-level, strategic donor funding activities.

Review conservation strategy annually.
Compile monthly and annual reports and work plans.
Develop and coordinate species action plans.
Lobby nationally and internationally to implement crane habitat objectives.
Ensure the employment of effective, efficient and suitably qualified staff.
Manage a group of 8 administrative and field staff.

Job title: Ecologist
Company: Biological Research Associates
Period: August 2006 – December 2007
Location: Tampa, Florida, USA
Job description: Writing budgets and proposals for environmental monitoring projects.
Conducting wildlife surveys to determining the presence and abundance of listed species.
Permit preparation and application for relocation of wildlife.
Conducting relocation of wildlife such as gopher tortoises, burrowing owls and various other species.
Coordinating research projects focused on the conservation of various wildlife species including gopher tortoises, burrowing owls, sandhill cranes, wading birds, snakes, small mammals, etc.
Writing management plans for wildlife preservation areas.
Compiling reclamation plans for phosphate mines.
Completing Environmental Impact Assessments and providing solutions based on a professional assessment.
Using ArcGIS and related software to report on all actions.
Writing scientific reports.
Delineating wetlands based on soil morphology, vegetation and topography.
Permit preparation and application for wetland impacts, preservation, reclamation and creation.

Job title: Bio Scientist II
Company: Florida Fish and Wildlife Conservation Commission
Period: March 2005 – July 2006
Location: Spring Hill, Florida, USA
Job description: Design and implement wildlife monitoring projects such as deer spotlight counts, turkey surveys, bob-white quail surveys, gopher tortoise surveys, shorebird counts etc.
Design and implement habitat restoration projects on 34 000 acre wildlife management area making use of mechanical action, chemical applications and prescribed fire.
Conducting photopoints and wildlife surveys to monitor the effect of habitat management practices on wildlife and their environment.
Conducting prescribed burns.
Restoration of scrub habitat and surveying for scrub jays.
Apply herbicides to exotic plants.
Restoration of hydrology on a 34 000 acre wildlife management area.
Oversee construction projects for erosion control.
Using ArcGIS and related software to report on management actions.
Writing scientific reports.
Conduct activities related to conservation of Red Cockaded Woodpeckers such as doing nest inserts, banding, roost checks and relocations.

Job title:	Safari coordinator and guide
Company:	High Adventure / SA Adventure
Period:	March 2004 – March 2005
Location:	Atlanta, Georgia, USA
Job description:	Selling photo and hunting safaris to Southern Africa, Argentina and the USA. Designing marketing material and delivering presentations to prospective clients. Attending conventions to liaise with outfitters and clients in order to compile FIT itineraries. Booking safaris based on FIT itineraries. Using airline software (Sabre) to plan and book airfare related to itineraries. Negotiate contracts with outfitters and airlines. Acting as guide on quail and deer hunts in Georgia and Texas.

Job title:	Research Assistant
Company:	Tshwane University of Technology
Period:	February 2002 – October 2003
Location:	Pretoria, South Africa
Job description:	Full-time research towards my master's degree. Studying the ecology of Helmeted Guineafowl on agricultural farmland in order to provide farmers with management plans and to provide hunters with ratios for sustainable utilisation. Constant sight tracking of several flocks of Helmeted Guineafowl. Capturing, tagging and radio-tracking individual guineafowl. Habitat and vegetation analyses. Dissecting approximately 600 guineafowl shot by wingshooters during the hunting season. Shooting and dissecting 5 guineafowl monthly. Collecting morphological, biological and dietary data on dissected specimens. Collecting endo-, ecto- and blood parasites from dissected specimens. Collecting and analyzing data on population dynamics and bag size history in order to investigate the sustainability of wingshooting in the area. Supervising up to 15 students at a time that assisted with field research, sight tracking and dissections. Conducting interviews with farmers and completing questionnaires in order to construct a land-use map covering approximately 200 000 hectares.

Job title:	Research Assistant
Company:	North West University
Period:	January 2000 – January 2002
Location:	Potchefstroom, South Africa
Job description:	Part-time, mostly weekends, field research towards my B.Sc. (Honors) degree. Studying ecology of small mammals as part of a management plan for Mongêna Game Ranch, South Africa. Capturing small mammals using Sherman live traps. Taking morphological measurements of small mammals and releasing them afterwards. Toe-clipping specimens and identifying recaptured specimens to estimate population sizes. Vegetation surveys to establish different habitat types. Relating small mammal surveys to habitat types in order to describe the

ecology of the small mammal species.
Using the occurrence of small mammals as indicators for assessing the status of the habitat in order to provide advice on the management plan for Mongêna Game Ranch.

Job title: Senior Credit Facilitator
Company: Avroy Shlain Cosmetics
Period: July 1996 – December 2000
Location: Midrand, South Africa
Job description: Responsible for collecting approximately R2 000 000 per month from existing clients.
Supervising two credit facilitators.
Liaising extensively with clients over the phone and in person in order to facilitate their accounts.
Regular office duties.

Publications: Sex-related variation in morphology of helmeted guineafowl (*Numida meleagris)* from the Riemland of the north-eastern Free State, South Africa. *South African Journal of Wildlife Research 35(1): 95 – 96 (April 2005).*
Authors: H.C. Prinsloo, V. Harley, B.K. Reilly & T.M. Crowe.

The diet of Helmeted Guineafowl (*Numida meleagris*) in the Riemland of the northeastern Free State, South Africa. *South African Journal of Wildlife Research.*
Authors: Hélen C. Prinsloo, Victor Harley, Prof. B.K. Reilly, Prof. T.M. Crowe.

Identifying potential protected areas in the Grassland Biome of South Africa. *South African Journal of Science 117(3/4)(March 2021)*.
Authors: Hélen C. Prinsloo, Prof. B.K. Reilly, Prof. W. Myburgh.
https://doi.org/10.17159/sajs.2021/7507

Additional private and consulting activities:

June 2002 – August 2003: Providing advice and help with organising of large gamebird hunts (36 people per hunting party) for Mr. Peter Wales in the northeastern Free State, South Africa.
Consulting Mr. Peter Wales and farmers in the northeastern Free State on conservation methods and wingshooting ratios for sustainable utilisation in the area.

February 2003 – May 2003: Consulting Middelburg Collieries on methods of improving the quality of habitat and increasing the numbers of gamebirds on rehabilitated land.

September 2003: Consulting farmers in the Arlington region of the eastern Free State on methods for improving gamebird habitat and ratios for sustainable utilisation.

September 2003: Consulting farmers in the Viljoenskroon region of the northern Free State on methods for improving gamebird habitat and ratios for sustainable utilisation.

October 2002: Speaker at conference day of The South African Journal of Wildlife Research. Topic: The ecology of small mammals on Mongêna Game Ranch, Gauteng, South Africa.

June 2003: Abstract of master's dissertation used in NRF's (National Research

Foundation) annual brochure representing the niche area: Decision Support to the Wildlife Industry.

Volunteer experience:

2000 – 2001: Collecting data on the status of wetlands in Mpumalanga, South Africa, for use in the Rennies Wetland Project.

2002: Tracking elephants in Kruger National Park to collect data on feeding behaviour and cortisol levels in faeces.

Corporate experience:

Personal assistant to credit manager
Credit facilitator
Senior credit facilitator

While studying towards my B.Sc. and Honors degrees, I worked fulltime at Avroy Shlain Cosmetics, a corporate company. I was promoted twice during the period 1997 – 2002 and my duties included assisting the credit manager in regular office activities, full credit control (debt collecting) and supervising other credit facilitators.

Education:

Institution: Tshwane University of Technology
Location: Pretoria, South Africa
Period: 2017-2021
Qualification: D.Tech (Nature Conservation)

Institution: Tshwane University of Technology
Location: Pretoria, South Africa
Period: 2002-2003
Qualification: M.Tech (Nature Conservation) - Cum Laude

Institution: Northwest University
Location: Potchefstroom, South Africa
Period: 2000-2001
Qualification: B.Sc. (Hons.) Zoology - Cum Laude

Institution: UNISA
Location: Pretoria, South Africa
Period: 1996-1999
Qualification: B.Sc (Biology)

Institution: Salomon Senekal Hoërskool
Location: Viljoenskroon, South Africa
Qualification: Senior Certificate
Subjects: Afrikaans (1st language) - A
English - A
Mathematics - A
Accountancy - A
Biology - A
Science - B

Computer skills: MS Office - Expert
ArcView / ArcMap / ArcCatalog / GIS / GPS – Expert
BPCS - Expert
Sabre - Expert
Statistica - Intermediate

Additional training and licences: ArcGIS 9.0
Basic Fire Management
Interagency Prescribed Fire School
Licensed Restricted Herbicide Applicator
Licensed Archeological Resource Monitor
Safe-Capture and Immobilisation of Animals
Natural Plant Communities of Florida
Teambuilding
Communication skills
Junior management

References:

Dr. Ray Jansen: Senior Lecturer - Tshwane University of Technology
email: jansenr@tut.ac.za
Phone: 012 318 6115

Dr. Henry Davies: Chairman - KZN Crane Foundation
email: henry@kzncrane.co.za
Phone: 033 343 3630

Mr. Tim Snow: Project Manager - Endangered Wildlife Trust
email: snowman@ewt.org.za
Phone: 082 802 6223

Prof. Brian Reilly: Professor - Tshwane University of Technology
email: reillyb@techpta.ac.za
Phone: 012 318 5215

Prof. Tim Crowe: Professor - University of Cape Town
email: Timothy.Crowe@uct.ac.za
Phone: 021 650 3292

Mr. Lee Walton: Senior Ecologist - Biological Research Associates
email: lwalton@entrix.com

Appendix J1

Storm water management plan

Recommendations for Storm Water Management

for

VAN WYK BOERDERY
REF:

Prepared by:

Bucandi Environmental Solutions

Project Manager: Dr Hélen Prinsloo
(EAPASA 2022/5586
(*Pr.Sci.Nat.*) Reg. No. 400108/11 (SACNASP)

February 2024

1. DETAILED DESCRIPTION OF PROPOSED PROJECT

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. The need for a Basic Assessment is triggered by Listing 1; activities 28 and 39(i) in GN R983 dated 4 December 2014 and amended on 07 April 2017. The total area of the project is 75 008.36 m2 (7.50 ha)

Approved Enigneer and Design drawings have not been finalised for the proposed development. These drawings will stipulate the location and of drainage ditches and any other storm water related infrastructure. This report is therefore limited to making recommendation regarding the management and mitigation measures to be incorporated in stormwater control in order to prevent pollution of surface water.

2. OBJECTIVES OF STORM WATER CONTROL

a) To reduce the potential impact on surface water run-off.

b) To ensure that the surface water run-off quality does not impact on the area and receiving environment.

c) To reduce erosion and contamination of surface water by effective storm water control.

3. STORM WATER CONTROL MANAGEMENT MEASURES

a) Before any construction takes place the proposed area for the development should be pegged out. All construction activities should take place within these areas in order to reduce the footprint of the proposed activity and therefore the potential impact on surface water run-off.

b) Storm water related infrastructure should be inspected on a regular basis in order to ensure that the structures are functional and do not cause soil erosion.

c) Effective storm water measures should be implemented to minimise soil erosion, such as:

The storm water drainage system must be maintained (free-draining) and not contaminated by other waste sources. Storm water must be kept separate from the sewage or any other effluent system.

Storm water must be diverted away from bird holding areas, chemical storage areas and wastewater treatment areas.

Erosion prevention structures or vegetation should be placed at concentration points to reduce water velocity within the drainage system.

4. SPECIFIC STORM WATER MANAGEMENT RECOMMENDATIONS

1) Berms should be placed along the southern, western and southeastern boundaries for diverting rainwater around the site

2) Stormwater will be directed around the site.

3) Rainwater that falls within the site will be directed to adjacent agricultural fields and serve as fertiliser for the fields.

Appendix J2

Waste management plan

Waste Management Plan

for

VAN WYK BOERDERY
REF:

Prepared by:

Bucandi Environmental Solutions

Project Manager: Dr Hélen Prinsloo
(EAPASA 2022/5586
(*Pr.Sci.Nat.*) Reg. No. 400108/11 (SACNASP)

February 2024

1. DETAILED DESCRIPTION OF PROPOSED PROJECT

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. The need for a Basic Assessment is triggered by Listing 1; activities 28 and 39(i) in GN R983 dated 4 December 2014 and amended on 07 April 2017. The total area of the project is 75 008.36 m2 (7.50 ha)

2. OBJECTIVES OF WASTE MANAGEMENT

Construction phase

a) To prevent or minimise the contamination of the natural environment by pollutants from waste generated onsite.
b) To prevent or minimise the contamination of the natural environment by pollutants from general and hazardous waste generated onsite.

Operational phase

a) To prevent or minimise the impact of pathogens associated with condemned material.
b) To prevent or minimise the contamination of the natural environment by wastewater generated throughout the process.
c) To prevent or minimise the contamination of the natural environment by pollutants from hazardous production waste generated onsite.
d) To prevent or minimise the contamination of the natural environment by pollutants from waste generated onsite.

3. MEASURES TO BE IMPLEMENTED FOR WASTE CONTROL

Construction phase

a) Waste will be recycled as far as possible.
b) Non-recyclable waste will be sorted into different types and disposed of at a suitably licensed waste disposal facility.
c) Waste considered unsuitable for municipal waste disposal sites will be disposed of at a suitably licensed hazardous waste disposal facility (e.g. WasteTech).

Operational phase

a) Waste will be recycled as far as possible.
b) Non-recyclable waste will be sorted into different types and disposed of at a suitably licensed waste disposal facility.
c) Waste considered unsuitable for municipal waste disposal sites will be disposed of at a suitably licensed hazardous waste disposal facility (e.g. WasteTech).
d) Manure will be sprayed as fertilizer on agricultural fields and will not be stockpiled.
e) The mortalities are removed on a daily basis and is collected by a predator farmer.

Appendix J3

Disease control plan

Disease control plan

for

VAN WYK BOERDERY
REF:

Prepared by:

Bucandi Environmental Solutions

Project Manager: Dr Hélen Prinsloo
(EAPASA 2022/5586
(*Pr.Sci.Nat.*) Reg. No. 400108/11 (SACNASP)

February 2024

1. DETAILED DESCRIPTION OF PROPOSED PROJECT

Van Wyk Boerdery (Frik van Wyk) is planning the expansion of a cattle feedlot with final capacity for 5 000 head of cattle on Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality. The need for a Basic Assessment is triggered by Listing 1; activities 28 and 39(i) in GN R983 dated 4 December 2014 and amended on 07 April 2017. The total area of the project is 75 008.36 m2 (7.50 ha).

2. OBJECTIVES OF BIO-SECURITY CONTROL

a) To prevent diseases not occurring on the farm from entering the farm and those occurring on the farm from spreading to other farms, e.g. foot and mouth disease.
b) To reduce the risk of zoonotic diseases such as E. coli becoming established and to limit the occurrence and spread of diseases.
c) To help protect neighbours, public health and the rural areas.
d) To improve overall heard health, cut costs of disease treatment and reduce losses, which could improve the profitability of the farm.

3. MEASURES TO BE IMPLEMENTED FOR BIO-SECURITY CONTROL

Biosecurity measures will be implemented according to the guidelines given by the South African Red Meat Association. These included, but are not limited to the following:

a. Cleaning and disinfecting

- Visitors, and employees must wash hands before entering and leaving the farm. Acceptable methods include waterless gels, disinfecting hand wipes, or soap and water.
- Clean work clothes should be worn to prevent the spread of disease. Proper clothing requirements are coveralls, hairnet, gloves, and plastic boots. The disposable clothing should be disposed of on the farm before the individual leaves the premises.
- Employees and visitors will be required to shower upon entering the farm and change into the clothing provided as described above.
- Employees and visitors will be required to shower upon exiting the farm and change back into their own clothing. Work clothes will be left on the farm and cleaned daily.
- Workers living on the farm premises will have designated clothing to be worn while on the cattle feedlot. If a person leaves the premises they should change clothes, including footwear, before leaving.
- Hands will be disinfected before leaving the dressing area and before entering the feedlot.
- Boots will be dipped in the footbaths provide at all the entrances and exits.
- All equipment used will be cleaned and disinfected prior to use. This includes equipment used for clean out and new herd set up.
- Equipment will not be shared between farms, unless thoroughly cleaned and disinfected.

b. Isolation

- Vehicles will be parked in a designated parking area away from the feedlot.
- The perimeter fence will be kept in good repair.

c. Vehicle and foot traffic control

- Nobody will be allowed to enter the facility unless biosecurity rules are followed.
- All visitors will sign a visitor log book and indicate recent cattle exposure.
- Only visitors with a specific purpose for being on the premises will be allowed to enter the facility.

- A biosecurity sign stating “no entrance” will be posted the entrances.
- Tires of all the vehicles will be disinfected upon entering and exiting the farm.
- Hands will be disinfected before entering and after leaving the site.

d. Pest control

- Rodents will be controlled with bait stations.
- Areas around site will be kept clean from litter and grass will be short and well-maintained.
- An area of at least 30 m around the feedlot will be landscaped and mowed.
- Storm water ditches will be well maintained and cleared from any obstructions daily to allow for water to leave the area and not puddle.
- Any activity of pets, wild animals, wild birds and other farm animals around the feedlot will be prevented as far as possible.

e. Disposal of mortalities

- The mortalities are removed from the feedlot on a daily basis and collected by Letsatsi predator farm to be used as food for predators.

f. General

- All employees have to restrict their contact with cattle and people who are associated with cattle.
- Employees and visitors are not allowed on site for 72 hours after visiting other feedlot.
- Sick animals will be immediately reported to the site manager.

g. Warning signs of some infectious diseases.

Signs of disease to look for are:

- Weight loss or reduced weight gain in comparison to the rest of the herd.
- Sneezing, coughing, gasping for air, nasal discharge.
- Greenish watery diarrhoea.
- Listlessness, muscular tremors.
- Twisting of head or neck.
- Complete paralysis.
    - Swelling around eyes and neck.
    - Lameness and tumours.
    - Sudden deaths or an unusual number of animals dying.

Disease breakouts should be reported immediately to the State Veterinarian’s Office on 012 319 7488 and instructions should be strictly followed.

Appendix J4

Screening Tool Report

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: Van Wyk Holdings

Project name: Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle.

Project title: Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle on Farm Viljoensvlei 525, situated in the in Frankfort District within Mafube Local Municipality.

Date screening report generated: 27/02/2024 10:22:11

Applicant: Frik Van Wyk

Compiler: Bucandi Environmental Solutions

Compiler signature: .....

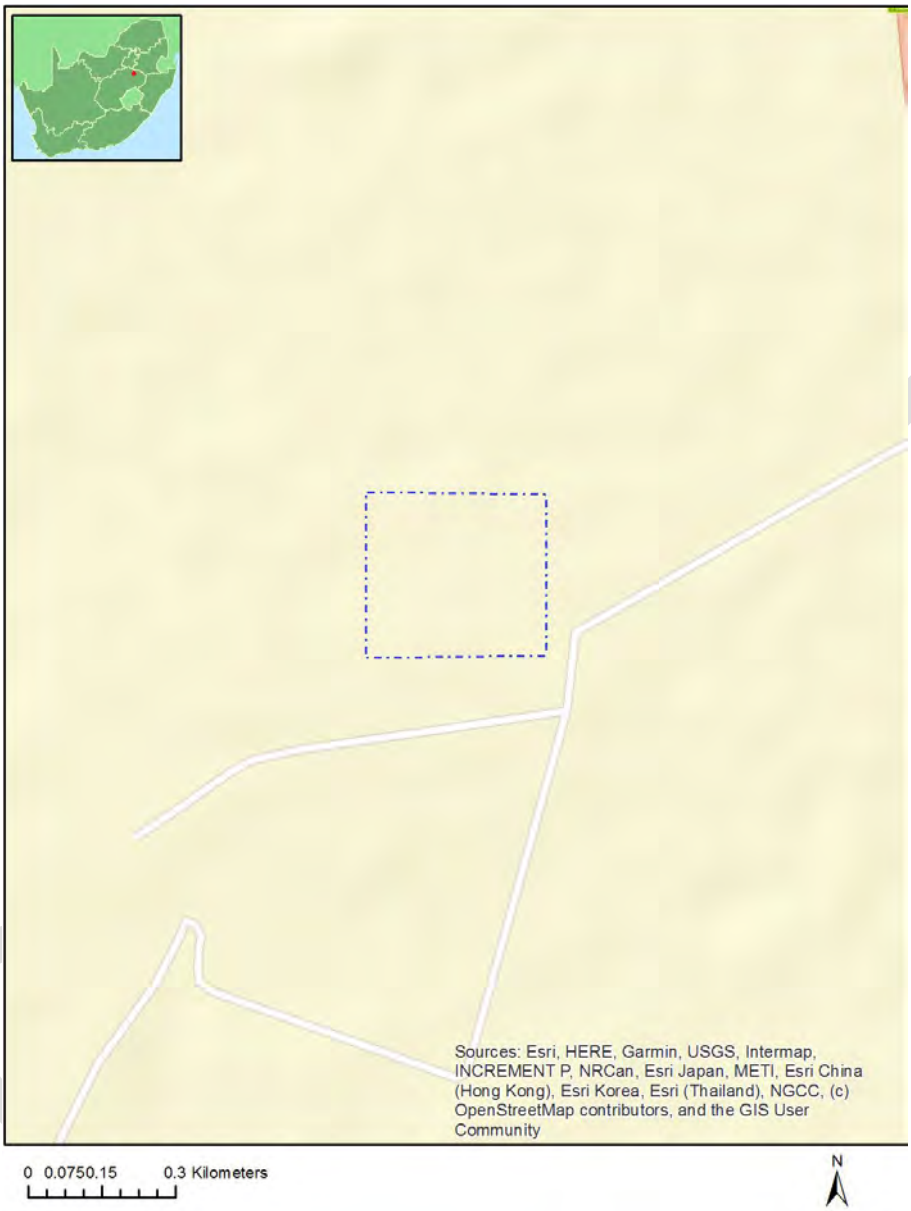
Application Category: Agriculture_Forestry_Fisheries|Animal Production

Table of Contents

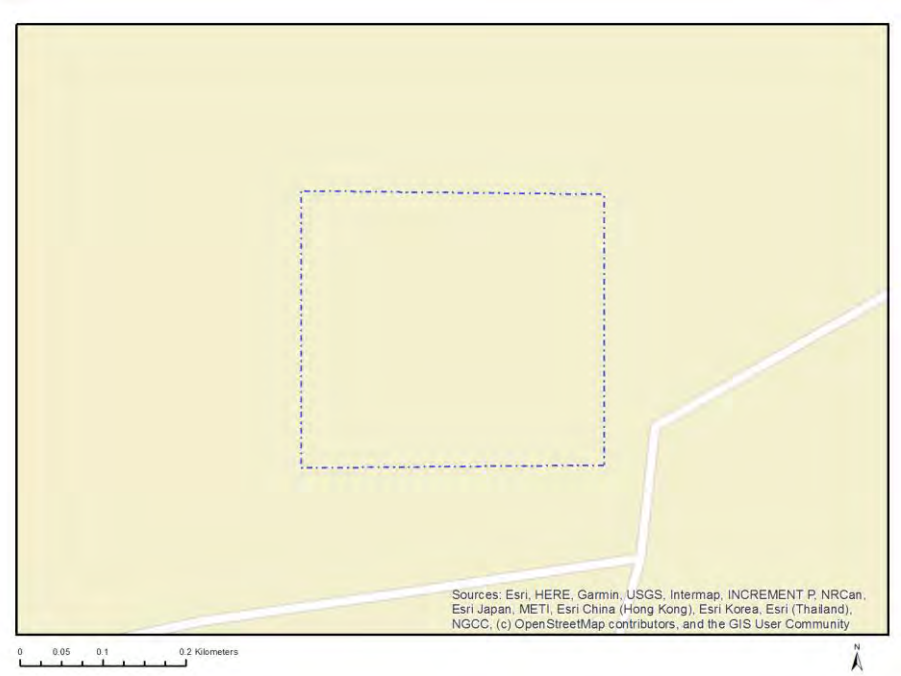
Proposed Project Location

Orientation map 1: General location

General Orientation: Viljoensvlei expansion of a cattle feedlot to final capacity for 5 000 head of cattle.



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	VILJOENSVLEI	525	0	27°20'16.78S	28°28'19.24E	Farm
2	VILJOENSVLEI	525	0	27°20'16.78S	28°28'19.24E	Farm Portion

Development footprint[1] vertices:
No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No nearby wind or solar developments found.

Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Agriculture_Forestry_Fisheries|Animal Production**.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Gas Pipeline Corridors-Phase 3: Richards Bay to Gauteng	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme				
Aquatic Biodiversity Theme				X
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme				

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

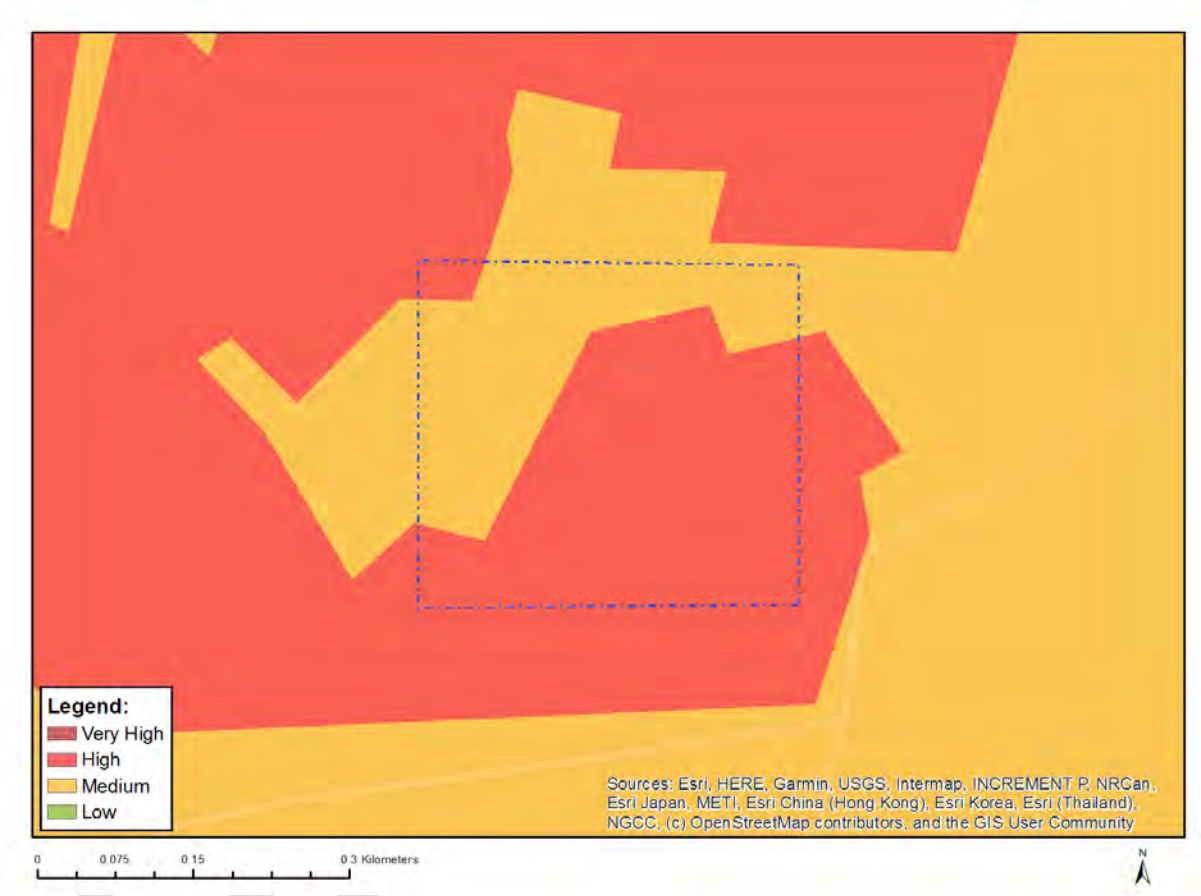
No	Specialist assessment	Assessment Protocol
1	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf

2	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
5	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
6	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
7	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
8	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
9	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
11	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

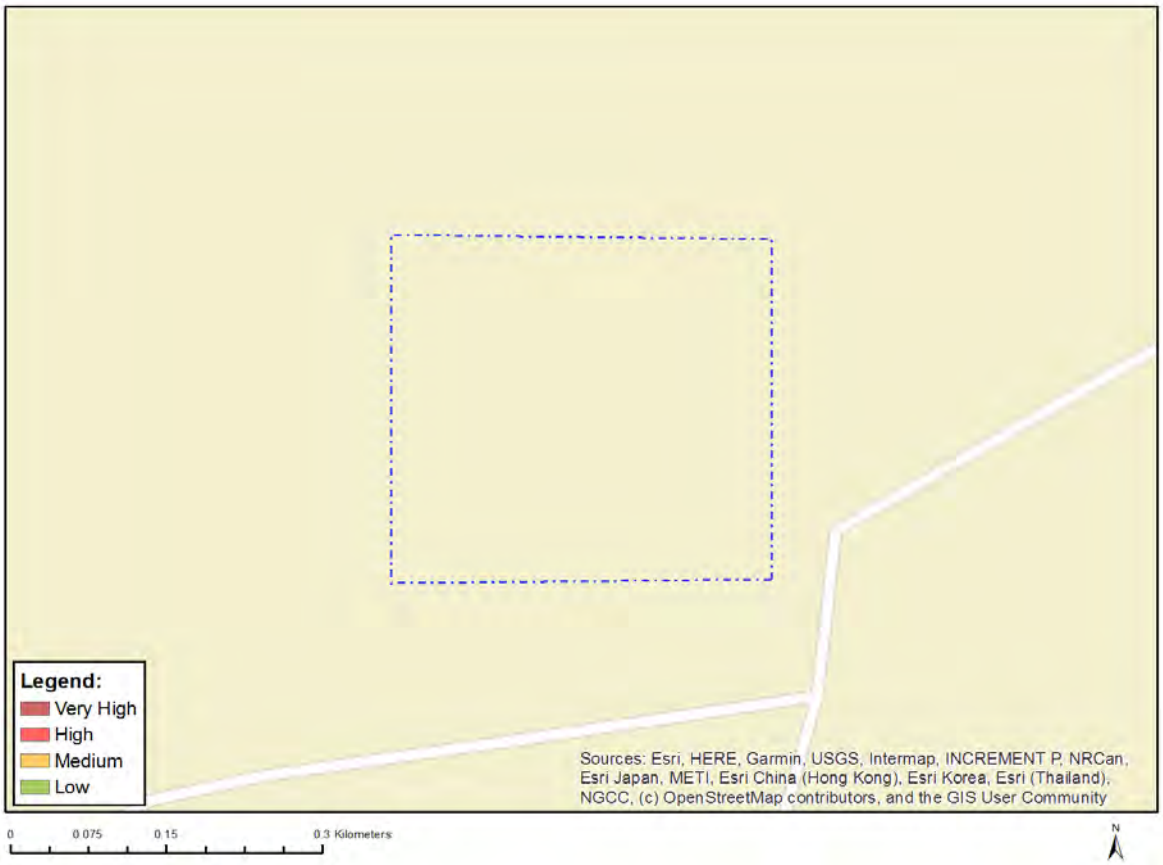


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY

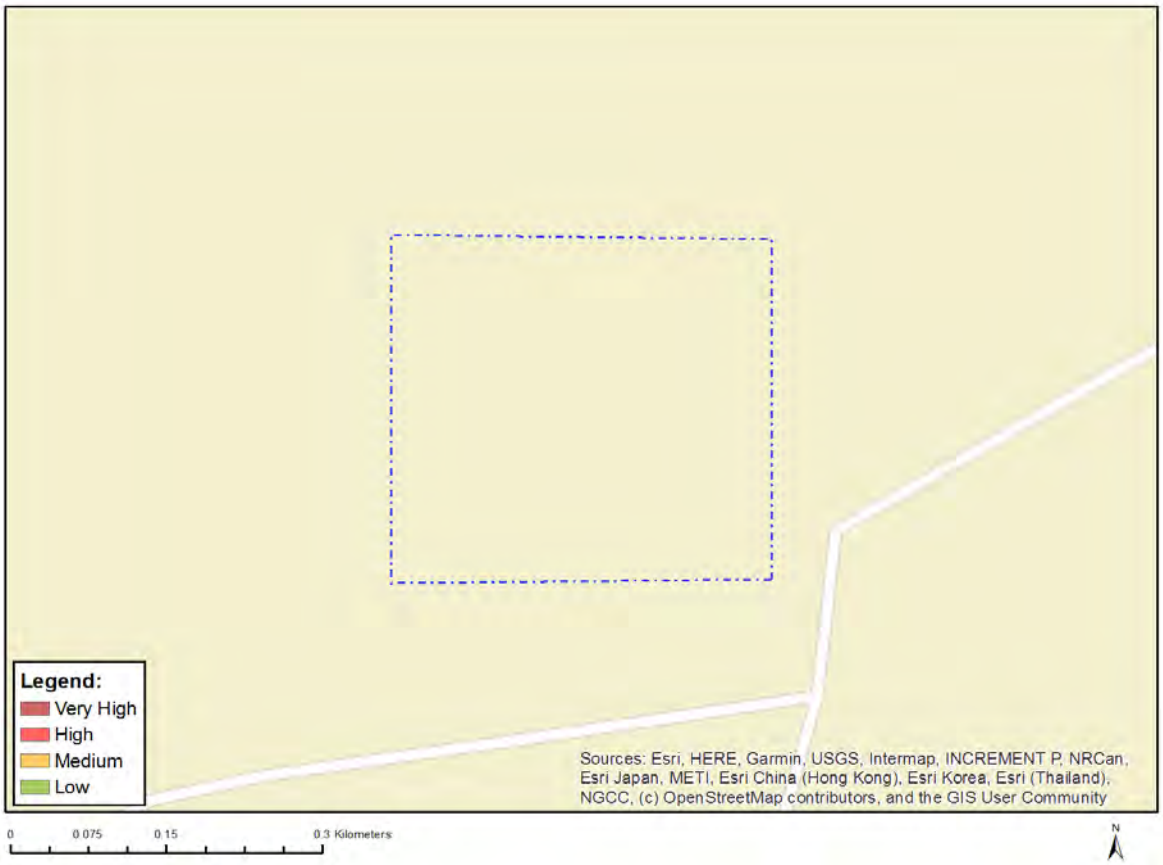


Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity

Sensitivity Features:
No sensitivity features found.

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

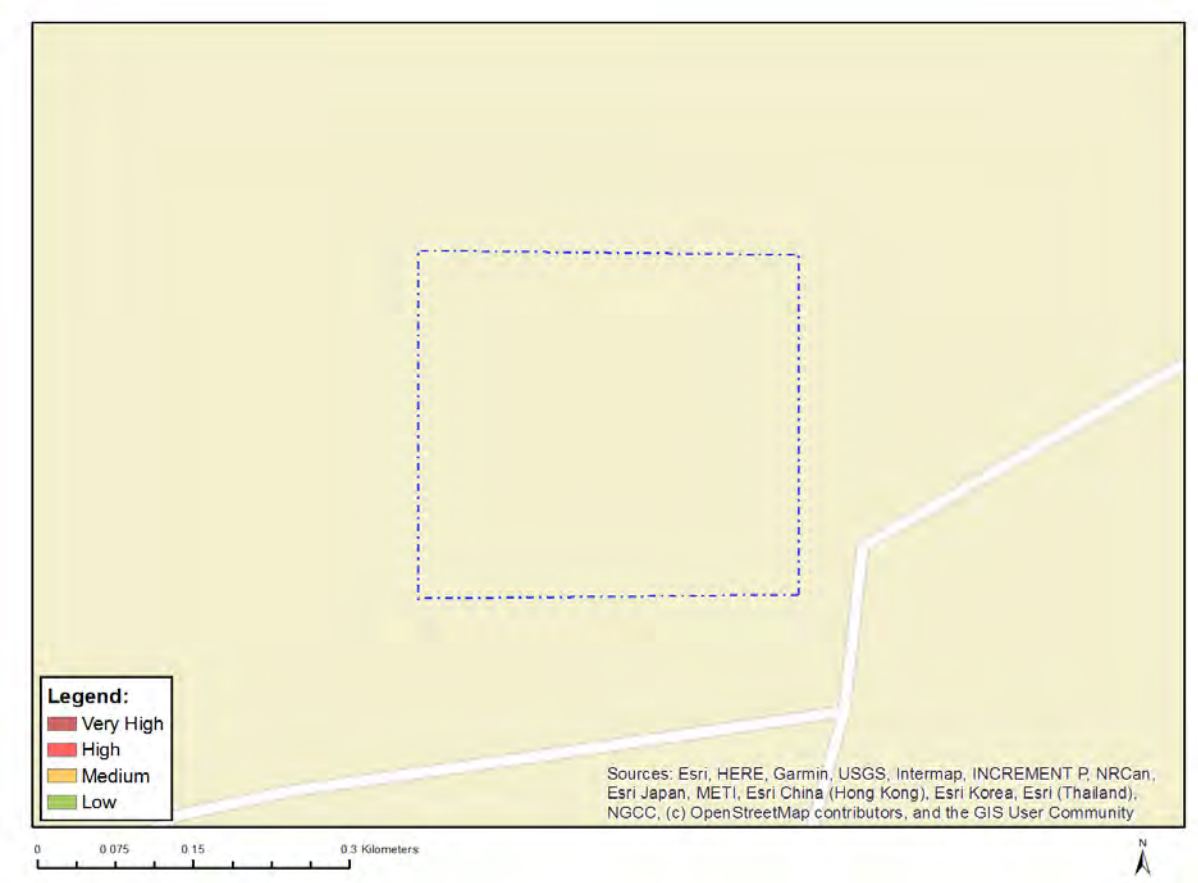


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

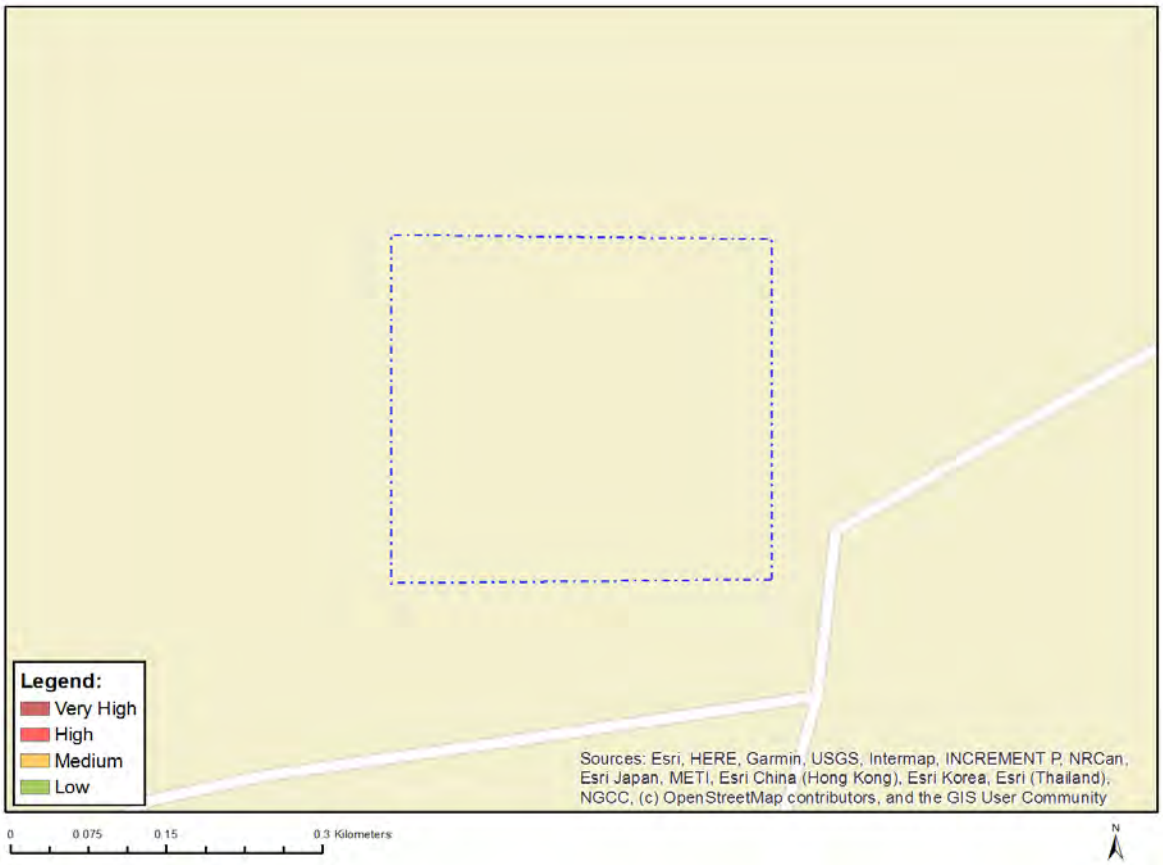


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

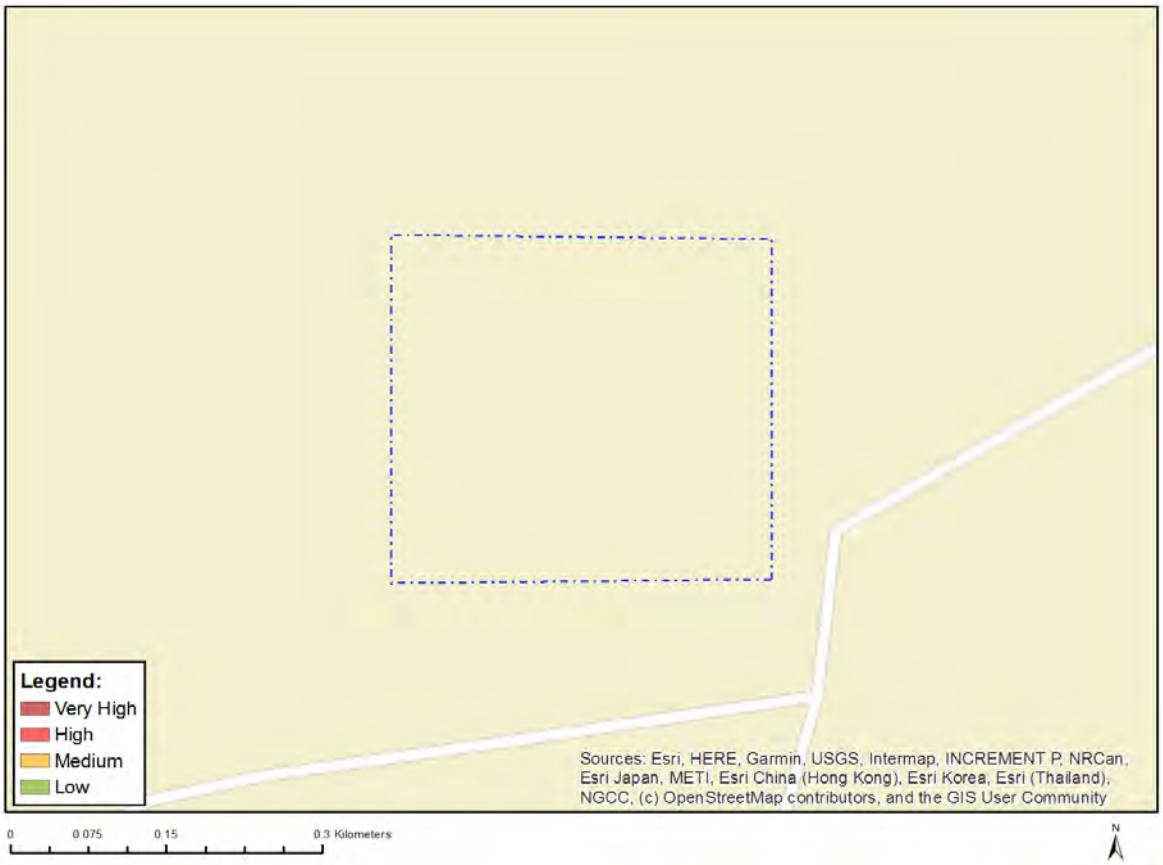
MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:
No sensitivity features found.

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

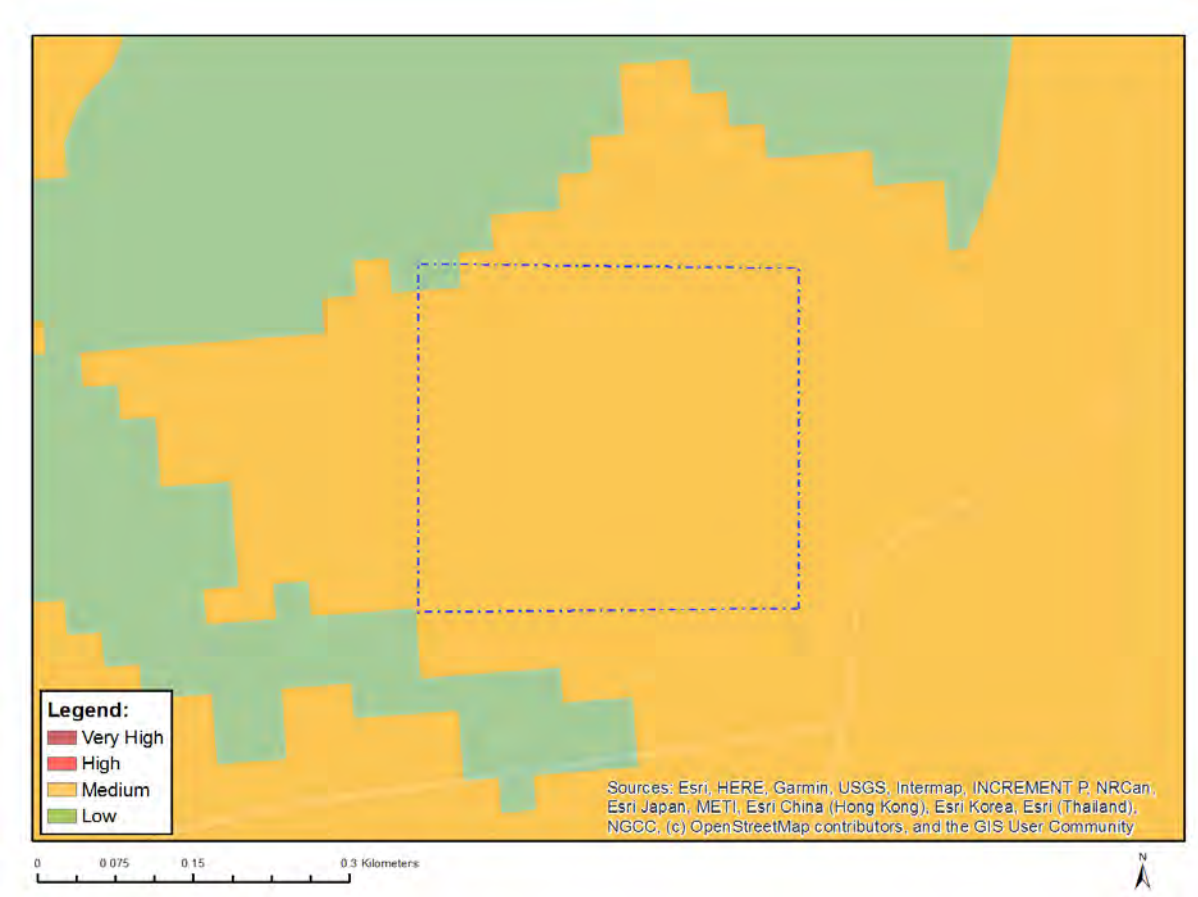


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	
Very High	

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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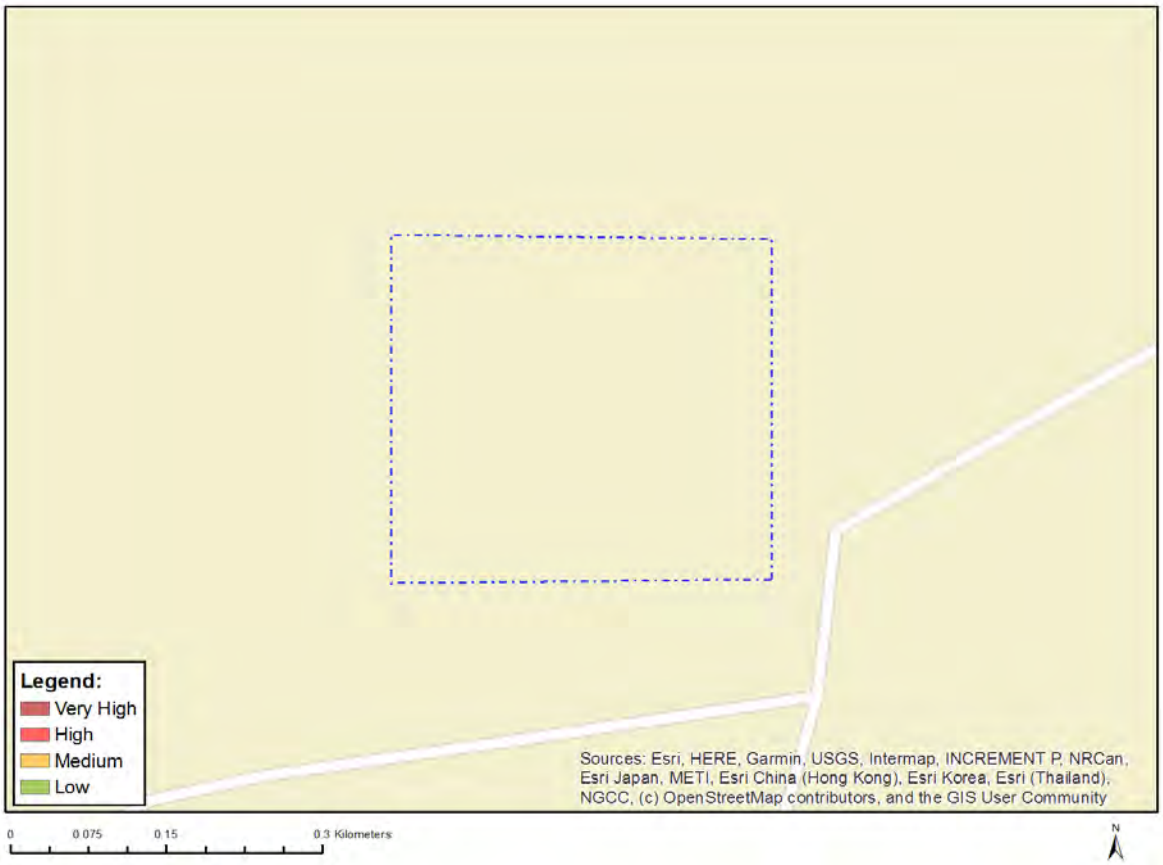
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	
Medium	

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity

Sensitivity Features:

Sensitivity	Feature(s)
	ESA 2