

**Proposed development expansion of a sheep feedlot on the
Remainder of the farm Groenhof 240 Vredefort RD, Free State
Province.**

**Basic Environmental Impact Assessment Report
for Comments**

Prepared for: Department of Sport Arts Culture and Recreation -
Heritage FS
Attention: Ms. Ntando PZ Mbatha
Heritage Coordinator
www.sahra.org.za/sahris/about/sahris

Applicant: Agrien (Pty) Ltd.
Mr. Armand Marx
PO Box 6227
Kroonheuwel
9501

Prepared by: REC Services (Pty) Ltd.
E-mail: rowan@recservices.co.za

Contact Person: Pieter van der Merwe / Rowan van Tonder

17 January 2023

- EAP: P.N. van der Merwe (Director)
 - Expertise: Environmental Impact Assessments in Land-use and Infrastructure Development.
 - Years of experience: 34. Qualifications: B.Sc. Hons. Environmental Management PU for CHE.

- EAP: Rowan van Tonder (Consultant)
 - Expertise: Currently involved with various applications for activities under the National Environmental Management Act (NEMA) (Act 107 of 1998), Mineral and Petroleum Recourses Development Act 2002 (Act No. 28 of 2002), and National Environmental Management: Waste Act, 2008 (Act 59 of 2008).
 - Years of experience: 15. Qualifications: M.Sc. Botany; B.Sc. Hons. Physical Geography; B.Sc. Environmental Sciences
 - SACNASP Pri.Sci.Nat. Reg. No.: 119204 (Environmental Sciences)
 - EAPASA Registration No.: 2579/2020

BASIC ASSESSMENT REPORT



destea

department of
economic, small business development,
tourism and environmental affairs
FREE STATE PROVINCE

(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 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 **07 April 2017**. 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.

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"JWALE KE NAKO YA KOTULO, RE A KUBELE TSA"

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10. The report must be compiled by an independent 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.

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SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

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

Proposed development expansion of a sheep feedlot on the Remainder of the farm Groenhof 240 Vredefort RD, Free State Province.

BASIC PROJECT DESCRIPTION

The current facility houses 950 herd of sheep at a density of 1 small stock unit per 17m². The expansion will be to increase the density, which will exceed 8m² per small stock unit with an increase in numbers up to 2247 small stock units. The current footprint of the existing site is 1.5Ha. The farm portion is 189.4Ha. There are and will be 5 pens with 420 lambs per pen.

The standard cycle for a sheep kraal / feedlot is that 420 lambs are bought from an existing company at about 32kg per lamb and it must be at an age of about 3 to 4 months. The price is market related and the lambs are bought on live weight.

The lambs are dropped into receiving camps and sorted. They are than fed on natural pasture and feed from about 3 weeks which consist of 18m² per lamb available. In this adaption phase all lambs are processed against any illness and infections. The feedlot will make use of a local veterinarian that will make suggestions on what the lambs may need to attain a high level of health so that nay mortalities can be prevented.

After phase 1, phase 2 will commence for the next 5 weeks. The feed composition is adapted, and the lambs are weighed daily to see if there is any increase or decrease in weight. If needed, lambs that does not show growth will be placed back onto natural pasture. Lambs are shaved in phase 2.

At phase 3, lambs are fed "ADLIP". All the feeding troughs are kept full, and they are not limited by the amount of feed intake. Phase 3 will continue for 2 weeks. Lambs are weighed at each phase change. When the lambs reach a weight

of 50kg, it will then be marketed. The whole process takes a total of 62 days.

The aim is to feed the lambs in a timeframe that is profitable, against what percentage meat it will produce per carcass and the total feed it consumes.

The feedlot gets its water from a borehole that is pumped into a holding tank that then distributed it to the different pens. Lambs of about 32kg drink about 2 to 6 litres per day in summer and 1 to 3 litres per day in winter. Thus for 2400 lambs in summer they will consume between 4800 to 14400 litres per day and between 2400 to 7200 litres per day in winter.

Power is supplied by Eskom, with a generator as a backup.

All the manure are distributed onto natural pastures and cropland on the farm.

All mortalities are investigated for the cause and symptoms. It is then buried in the natural pastures so that the soil can benefit from these carcasses. The mortality rate is usually less than 1%.

LOCALITY

Turn-off to the farm from the R721 (between Vredefort and Kroonstad) is about 27.4 km from the Caltex Filling station in Vredefort. At this turn-off travel 4,4 km on a gravel road (S261) to the next turn-off on your right-hand side. At this turn-off travel 1.5 km on a gravel road (S1274) to the entrance (GPS coords.: -27.271985°S, 27.367214°E) of the farm. Please refer to the Google Earth image below.



Photos of current sheep feedlot:











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
<p>Example:</p> <p>GN 327 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	<p>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</p>
<p>GNR. 327: Listing Notice 1: Activity 39</p> <p>The expansion and related operation of facilities for the concentration of animals in densities that will exceed.</p> <p>(ii) 8 square meters per small stock unit, where the expansion will constitute more than;</p>	<p>The current facility houses 950 herd of sheep at a density of 1 small stock unit per 17m². The expansion will be to increase the density, which will exceed 8m² per small stock unit with an increase in numbers up to 2247 small stock units.</p>

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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. 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.

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a) Proposal/Activity alternatives

Alternative 1 (preferred alternative)		
Description: Preferred	Lat (DDMMSS)	Long (DDMMSS)
The current facility houses 950 herd of sheep at a density of 1 small stock unit per 17m ² . The expansion will be to increase the density, which will exceed 8m ² per small stock unit with an increase in numbers up to 2247 small stock units. The current footprint of the existing site is 1.5Ha. The farm portion is 189.4Ha.	Site: Latitude: 27°16'22.97"S Longitude: 27°22'11.03"E	
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
The best alternative with the lowest impact will be the NO-GO alternative or continuation of the current feedlot, from an environmental perspective. There is also existing cropland on and around this site. But the proposed activity is to expand the current feedlot to a higher density. It does not make sense for this company to do any other agri-industrial entity. This proposed development is their next need in their line of production estimates of this region. An alternative activity will <u>not</u> be evaluated.	On the same site as above.	On the same site as above.
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

b) Property alternatives

Alternative 1 (preferred alternative)		
Description: Preferred	Lat (DDMMSS)	Long (DDMMSS)
Currently the applicant has ownership of the proposed site. The proposed site is currently the only site now available to the applicant. This is also an expansion of the current facility. Therefore, an alternative site was NOT OR CANNOT be taken in consideration.	On the same site as above.	On the same site as above.
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)

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Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities: **N/A**

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.

c) Design or Lay-out alternatives

Alternative 1 (preferred alternative)		
Description: Preferred	Lat (DDMMSS)	Long (DDMMSS)
The current layout cannot be changed. This is also an expansion application of the current facility. The feedlot is also on previous agricultural orchard land and away from any sensitive environmental elements. Therefore, an alternative layout was NOT considered.	On the same site as above.	On the same site as above.
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

d) Technology alternatives

Alternative 1 (preferred alternative)
The technology to be used and in commercial farming with sheep to this extent and scale i.e., different sheep units, manure removal, feeding and watering systems, etc. is of the latest used standards. As a rule, this high standards in sheep farming technology must be implemented when farming with over 2000 sheep, and in order to maintain a sustainable market share. Power is supplied by Eskom, with a generator as a backup.
Alternative 2
As an alternative to this part of the technological layout of the facility, the provision of electricity through solar energy generation can be considered as an alternative. This can imply the installation of visible solar panels for partial or self-sustaining electricity provision to the facility. The technology alternative will be assessed .
Alternative 3

e) Operational Aspect alternatives

Alternative 1 (preferred alternative)
At this stage the operational aspects are and will be of a high level, in terms of production turn-over, established off-set markets with a well and carefully planned input and output volumes and operations. Any changes in the operation levels and technology may, according to the applicant, lower the level of efficiency and standards in this profession and field. Therefore, operational aspects of a lower key or standard will jeopardize the long-term sustainability of this sheep farming feedlot enterprise. The operational alternative will therefore NOT be assessed.
Alternative 2
Alternative 3

f) No-go alternative

Should this alternative be considered, the site will remain in its current state. The applicant will also suffer financial loss as the applicant would like to expand his current farming production. This will also lead to a lost opportunity for a Black Economic Empowerment (BEE) investment. On the other hand, no additional job opportunities will be created, and no contribution will be made to the upliftment of the community and infrastructure development. Thus, if not developed this positive impact will not be seen. The proposed development will create more job opportunities (construction and operational phase).

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

PARAGRAPHS 3 TO 11 WILL NOT CHANGE FOR ANY OTHER ALTERNATIVE DUE TO THE FACT THAT THIS IS THE ONLY SITE AND A WELL THOUGHTOUT COMMERCIAL PRODUCTION CHAIN. ONLY PARAGRAPHS FROM 12 TO 14 WILL 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:

Alternative A1¹ (preferred activity alternative) Site:

Alternative A2

Alternative A3 (if any)

Size of the activity:

15 000m ²
m ²
m ²

or, for linear activities: **N/A**

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

m
m
m

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

Alternative:

Alternative A1 (preferred activity alternative) Site

Alternative A2

Alternative A3 (if any)

Size of the site/servitude:

1 894 000 m ²
m ²
m ²

4. SITE ACCESS

Does ready access to the site exist?

YES	
-----	--

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

If NO, what is the distance over which a new access road will be built

m

Describe the type of access road planned:

N/A

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		Please explain
The land-use rights are agriculture. This is an agricultural activity.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES		Please explain
(b) Urban edge / Edge of Built environment for the area	YES		Please explain

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<p>(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?).</p>	<p>YES</p>		<p>Please explain</p>
<p>(d) Approved Structure Plan of the Municipality</p>	<p>YES</p>		<p>Please explain</p>
<p>(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?)</p>	<p>YES</p>		<p>Please explain</p>
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p>YES</p>		<p>Please explain</p>
<p>Done everything according to the SAFA National Environmental Guidelines.</p>			
<p>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)?</p>	<p>YES</p>		<p>Please explain</p>

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<p>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.)</p>	<p>YES</p>		<p>Please explain</p>
<p>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.)</p>	<p>YES</p>		<p>Please explain</p>
<p>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.)</p>		<p>NO</p>	<p>Please explain</p>
<p>This is a farming area and far from any town infrastructure. It does not need to fall within the municipal infrastructure planning.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>		<p>NO</p>	<p>Please explain</p>
<p>This forms part the agricultural sector with no issue to national concern or importance.</p>			
<p>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.)</p>	<p>YES</p>		<p>Please explain</p>

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9. Is the development the best practicable environmental option for this land/site?	YES		Please explain
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES		Please explain
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?		NO	Please explain
Maybe. Although, many other types of farming are already being practices around this property.			
12. Will any person's rights be negatively affected by the proposed activity/ies?		NO	Please explain
Many other types of farming are already being practices around this property. This will only compliment the area.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?		NO	Please explain
This is a farming area and far from any town infrastructure. It will be self-sufficient.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?		NO	Please explain
This is a farming area and far from any town infrastructure. It will be self-sufficiently.			
15. What will the benefits be to society in general and to the local communities?	Please explain		
The proposed expansion development of facilities for this feedlot will create more job opportunities (construction and operational phase phase). The economy in this area will be boosted by new commercial developments from the agricultural sector. Additional skills development can be added to anyone employed.			
16. Any other need and desirability considerations related to the proposed activity?	Please explain		
No.			

17. How does the project fit into the National Development Plan for 2030?	Please explain
The proposed expansion development of facilities for this feedlot will create more job opportunities (construction and operational phase phase). The economy in this area will be boosted by new commercial developments from the agricultural sector.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
All general objectives of Integrated Environmental Management set out in section 23 of NEMA have been taken into account and by complying with the Regulations set out under GN 326, hand in hand with appendix 1 of the NEMA Regulations.	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	
All principles set out in section 2 of NEMA have been taken into account and by complying with the Regulations set out under GN 326, hand in hand with appendix 1 of the NEMA Regulations.	

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, 1998 (Act No. 107 of 1998 as amended).	According to section 2 and 23 of the Act (NEMA).	Provincial	27 November 1998
R. 326 National Environmental Management Act (107/1998): Environmental Impact Assessment Regulations, 2017	R. 327: Listing Notice 1: Activity 39	Provincial	7 April 2017
Free State Province Provincial Spatial Development Framework (PSDF)	Taking into account: <ul style="list-style-type: none"> • Hydrology And Water • Biodiversity And Natural 	Provincial	7 March 2013

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	Resources <ul style="list-style-type: none"> • Heritage Resources • Socio-Economic Aspects 		
National Water Act, 1998 (Act No. 36 Of 1998)	This Act is relevant to the proposed project as both the construction and operational phases may impact negatively on water resources (for example, groundwater resources). As well as the abstraction of water.	Water catchment administration sections	20 August 1998
National Heritage Resources Act, 1999(Act No. 25 of 1999)	The activities that apply to the project include: Section 38 (1) (c): any development or other activity which could change the character of a site- exceeding 5 000m ² in extent; or	Provincial	28 Apr 1999
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	This act is relevant to the proposed project as it may result in higher or lower levels of air pollution (dust and vehicle emissions) in the area, through both the construction and operational phases.	National	1 April 2010

The following table provides an indication of additional legislation, policies and/or guidelines applicable to the said project. The list below merely serves to highlight key legislation and obligations and is thus not definitive or exhaustive.

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Title of legislation, policy or guideline:	Administering authority:	Aim of legislation, policy or guideline
The Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (Act 36 of 1947)	Department of Agriculture, Forestry and Fisheries	generations. For the registration of fertilizers, farm feeds, agricultural remedies, stock remedies, sterilizing plants and pest control operators; to regulate or prohibit the importation, sale, acquisition, disposal or use of fertilizers, farm feeds, agricultural remedies and stock remedies; to provide for the designation of technical advisers and analysts; and to provide for matters incidental thereto.
Animal Diseases Act (Act 35 of 1984)	Department of Agriculture, Forestry and Fisheries	To control animal diseases
Animal Health Act (Act 7 of 2002)	Department of Agriculture, Forestry and Fisheries	To provide for measures to promote animal health and to control animal diseases.
Promotion of Access to Information Act, 2000 (Act 2 of 2000) and amendments	Department of Justice and Constitutional Development	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights; and to provide for matters connected therewith.
Promotion of Administrative Justice Act, 2000 (Act 3 of 2000) and amendments	Department of Justice and Constitutional Development	The Act aims to make the administration (e.g. Government and Parastatals) effective and accountable to people for its actions.
Conservation of the Agricultural Resources Act, 1983 (Act 43 of 1989) and amendments	Department of Agriculture, Forestry and Fisheries	To provide control over the utilization of the natural resources of the Republic in order to promote the conservation of soil, the water sources and the vegetation and the combating of weeds and invader plants; and for matters connected therewith.
Occupational Health and Safety Act, 1993 (Act 85 of 1993) and amendments	Department of Labour	To provide for the health and safety of persons at work and for the health and safety of persons in connection with the activities of persons at work and to establish an advisory council for occupational health and safety.
Health Act, 1977 (Act 63 of 1977) and amendments	Department of Health	To promote public health.
National Building Regulations and Standards Act, 1977 (Act 103 of 1977) and amendments	Department of Trade and Industry	To provide for the promotion of uniformity in the law relating to the erection of buildings in the areas of jurisdiction of local authorities; for the prescribing of building standards; and for matters connected therewith.
Various by-laws of the Local Municipality, e.g.: o Integrated waste management; o Noise and control; o Petroleum products; o Standard drainage; o Water services, etc.	Local Municipality	To regulate land use with the Local Municipal area.
Integrated Development Plan for the Steve Tshwete Local Municipality	Local Municipality	Broad spatial framework guidelines for the Local Municipality.
Spatial Development Framework for the Local Municipality	Local Municipality	Spatially based policy guidelines whereby changes, needs and growth in the region can be managed to benefit the whole community.
District Municipality Climate Change Response Strategy	District Municipality	A strategy in response to climate change.
District Municipality Integrated Waste Management Strategy	District Municipality	A strategy dealing with waste.

PROPOSED / PREFERRED ACTIVITY:

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	<input checked="" type="checkbox"/>
	5m ³

If YES, what estimated quantity will be produced per month?

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

The solid construction waste such as overburden material will be used as backfilling in areas where necessary and some will be disposed of at the nearest waste disposal site or quarry.

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

At the closest appropriate registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) by the licensed waste disposal contractor to be appointed by the site contractor.

Will the activity produce solid waste during its operational phase?

YES	<input checked="" type="checkbox"/>
	1.7m ³

If YES, what estimated quantity will be produced per month?

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

Solid waste will be driven to the registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) or collected by municipal services or by a registered solid waste contractor.

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

At the closest appropriate registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) by the licensed waste disposal contractor to be appointed by the site contractor.

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

N/A

BASIC ASSESSMENT REPORT

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? 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? 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.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? NO

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site? YES

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.

Please see the Waste Management Report under Appendix J.

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

If YES, provide the particulars of the facility: N/A

Facility name:	
Contact person:	
Postal address:	

BASIC ASSESSMENT REPORT

Postal code:			
Telephone:			
E-mail:			

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:
See Appendix J for the Waste Management Report

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	
	NO

If YES, is it controlled by any legislation of any sphere of government?

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:

Vehicles coming into the farm for collection and delivery will release the normal carbon monoxide gases and there will be **dust** generated due to existence of gravel roads.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

	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?

Describe the noise in terms of type and level:

The bleating of sheep.

13. WATER USE

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

	Groundwater	
--	-------------	--

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:

The feedlot gets its water from a borehole that is pumped into a holding tank that then distributed it to the different pens. Lambs of about 32kg drink about 2 to 6 litres per day in summer and 1 to 3 litres per day in winter. Thus for 2400 lambs in summer they will consume between 4800 to 14400 litres per day and between 2400 to 7200 litres per day in winter. Thus between 144 000L to 432 000L per month in summer
Thus between 72 000L to 216 000L per month in winter

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES	
-----	--

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

(See Appendix J).

14. ENERGY EFFICIENCY

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

BASIC ASSESSMENT REPORT

Power supply will be from Eskom. Energy efficient light bulbs (florescent) will be used for all lighting purposes. No other measures are known at this stage.

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

None at this stage. Future solar power can be looked at.

TECHNOLOGY ALTERNATIVE:

15. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES

If YES, what estimated quantity will be produced per month?

5m³

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

The solid construction waste such as overburden material will be used as backfilling in areas where necessary and some will be disposed of at the nearest waste disposal site or quarry.

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

At the closest appropriate registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) by the licensed waste disposal contractor to be appointed by the site contractor.

Will the activity produce solid waste during its operational phase?

YES

If YES, what estimated quantity will be produced per month?

1.7m³

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

Solid waste will be driven to the registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) or collected by municipal services or by a registered solid waste contractor.

BASIC ASSESSMENT REPORT

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

At the closest appropriate registered municipal waste disposal site (Vredefort, Kroonstad & Koppies) by the licensed waste disposal contractor to be appointed by the site contractor.

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

N/A

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? 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? 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.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? NO

If YES, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site?

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.

Please see the Waste Management Report under Appendix J.

BASIC ASSESSMENT REPORT

Will the activity produce effluent that will be treated and/or disposed of at another facility?

NO

If YES, provide the particulars of the facility: N/A

Facility name:

Contact

person:

Postal

address:

Postal code:

Telephone:

E-mail:

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

See Appendix J for the Waste Management Report.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES

If YES, is it controlled by any legislation of any sphere of government?

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:

Vehicles coming into the farm for collection and delivery will release the normal carbon monoxide gases and there will be **dust** generated due to existence of gravel roads.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

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	<input type="checkbox"/>
<input type="checkbox"/>	NO

If YES, is it controlled by any legislation of any sphere of government?

Describe the noise in terms of type and level:

The bleating of sheep.

16. WATER USE

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

<input type="checkbox"/>	Groundwater	<input type="checkbox"/>
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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:

<p>The feedlot gets its water from a borehole that is pumped into a holding tank that then distributed it to the different pens. Lambs of about 32kg drink about 2 to 6 litres per day in summer and 1 to 3 litres per day in winter. Thus for 2400 lambs in summer they will consume between 4800 to 14400 litres per day and between 2400 to 7200 litres per day in winter. Thus between 144 000L to 432 000L per month in summer Thus between 72 000L to 216 000L per month in winter</p>

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

YES	<input type="checkbox"/>
-----	--------------------------

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

(See Appendix J).

17. ENERGY EFFICIENCY

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

Power supply will be from Eskom. Energy efficient light bulbs (florescent) will be used for all lighting purposes. Solar powered roof panels on the roof of sheep houses will be investigated in terms of its feasibility. This method is employed in Europe where the whole roof area is under solar panels. This could help the development to be self-sustaining in terms of electricity in the long-term. But various technical constraints in terms of possible feeding electricity into the national network are still a challenge.

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

None. But possibly in the future solar panel energy generation system could be implemented to help generate electricity for this unit to help this farm become more self-sustaining and off the grid.

Small solar panels is already being used for the security cameras for the current feedlot:



SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

- 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):

0

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

THE RECEIVING ENVIRONMENT IS THE SAME FOR ALL THE ALTERNATIVES, BECAUSE THIS IS THE ONLY SITE AVAILABLE.

- Has a specialist been consulted to assist with the completion of this section?

	NO
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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
Local Municipality	Moqhaka
Ward Number(s)	21
Farm name and number	Remainder of the farm Groenhof 240 Vredefort RD
Portion number	Remainder
SG Code	F0380000000024000000

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.

BASIC ASSESSMENT REPORT

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?

	NO
--	----

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1 Only Site

Flat	1:50 – 1:20	
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Alternative S2:

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
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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
------	-------------	-------------	-------------	--------------	-------------	------------------

1. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>

BASIC ASSESSMENT REPORT

2.3 Side slope of hill/mountain 2.6 Plain 2.9 Seafront
 2.10 At sea

2. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

3. GROUNDCOVER

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).

		Veld dominated by alien species ^E	
	Cultivated land	Building or other structure	Bare soil

See Images below:





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.

A vegetation specialist (KEMS) was consulted (see Appendix D).

4. SURFACE WATER

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

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

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

5. LAND USE CHARACTER OF SURROUNDING AREA

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:

<p>Natural area: No natural grassland will be affected by this development. Grassland is found south to west of the site. A vegetation study</p>	<p>Dam or reservoir: A non-perennial farm dam is found southwest of the site.</p>	
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<p>was conducted to investigate the impact.</p>		
<p>Low density residential: Farmstead/buildings are found west of Site. No influence on this farmstead will occur.</p>		
		<p>Agriculture: The proposed development is an agricultural entity and should not impact on any of the surrounding agricultural activities.</p>
		<p>River, stream or wetland: A non-perennial stream is found west of the site. The feedlot is situated far enough to not impact upon this area. The EMPr will also address mitigation measures.</p>

BASIC ASSESSMENT REPORT

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:

N/A

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:

N/A

BASIC ASSESSMENT REPORT

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:

N/A

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

Critical Biodiversity Area (as per provincial conservation plan)		NO
Core area of a protected area?		NO
Buffer area of a protected area?		NO
Planned expansion area of an existing protected area?		NO
Existing offset area associated with a previous Environmental Authorisation?		NO
Buffer area of the SKA?		NO

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

6. CULTURAL/HISTORICAL FEATURES

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:

NO

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:

The proposed site does not contain any surface archaeological deposits; a possible reason is previous infra-structure development and farming activities in the greater study area.

The possibility of sub-surface findings always exists and should be taken into consideration.

If sub-surface archaeological material is discovered work must stop and a heritage practitioner preferably an archaeologist contacted to assess the find and make recommendations.

The site does not contain any marked graves or burial grounds. The possibility of graves not visible to the human eye always exists and this should be taken into consideration.

It is important to note that all graves and cemeteries are of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (Act 25 of 1999) whenever graves are 60 years and older. Other legislation with regard to graves includes those when graves are exhumed and relocated, namely the Ordinance on Exhumations (no 12 of 1980) and the Human Tissues Act (Act 65 of 1983 as amended).

If sub-surface graves are discovered work should stop and a professional preferably an archaeologist contacted to assess the age of the grave/graves and to advice on the way forward.

RECOMMENDATIONS:

- There are no visible restrictions or negative impacts in terms of heritage associated with the site.
- In terms of heritage this project can proceed.
- The discovery of subsurface archaeological and/or historical material as well as graves must be taken into account in the Environmental Management Programme.

Will any building or structure older than 60 years be affected in any way?

	NO
--	----

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

	NO
--	----

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

7. 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.

Moqhaka Local Municipality is situated in the Fezile Dabi District in the Free State Province. The seat of local government is in Kroonstad.

According to Census 2011, Moqhaka Local Municipality has a total population of 160 532 people, of which 87,2% are black African, 9,3% are white people and with the other population groups making up the remaining 3,5%. Of those aged 20 years and older, 5,5% have completed primary school, 36% have some secondary education, 27,8% have completed matric and 8,6% have some form of higher education. 5,4% of those aged 20 years and older have no form of schooling

There are 45 661 households in the municipality, with an average household size of 3,2 persons per household. 57,7% of households have access to piped water either in their dwelling or in the yard. Only 1% of households do not have access to piped water.

here are 55 594 economically active (employed or unemployed but looking for work) people, and of these 35,2% are unemployed. Of the 27 349 economically active youth (15–34 years) in the area, 47,2% are unemployed.

Agricultural households	
Type of specific activity	Number

BASIC ASSESSMENT REPORT

Agricultural households	
Type of specific activity	Number
Livestock production	2,284
Poultry production	2,750
Vegetable production	2,422
Production of other crops	1,902
Other	1,454

Key Statistics²⁰¹¹

Total population

160,532

Young (0-14)

27%

Working Age (15-64)

66,4%

Elderly (65+)

6,5%

Dependency ratio

50,5

Sex ratio

98,1

Growth rate

-0,45% (2001-2011)

Population density

20 persons/km²

BASIC ASSESSMENT REPORT

Unemployment rate	35,2%
Youth unemployment rate	47,2%
No schooling aged 20+	5,4%
Higher education aged 20+	8,6%
Matric aged 20+	27,8%
Number of households	45,661
Number of Agricultural households	7,221
Average household size	3,2
Female headed households	40,9%
Formal dwellings	88,7%
Housing owned/paying off	56,1%
Flush toilet connected to sewerage	85,6%
Weekly refuse removal	84,9%
Piped water inside dwelling	57,7%
Electricity for lighting	93,3%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?

R800 000 000

What is the expected yearly income that will be generated by or as a result of the activity?

unkown

Will the activity contribute to service infrastructure?

NO

BASIC ASSESSMENT REPORT

Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	150
What is the expected value of the employment opportunities during the development and construction phase?	200 million
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?	150
What is the expected current value of the employment opportunities during the first 10 years?	200 million
What percentage of this will accrue to previously disadvantaged individuals?	90%

8. 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)**

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
No Natural	In fact it is listed as Degraded See image below). The feedlot is on old orchard land.

BASIC ASSESSMENT REPORT

	Area Remaining (NNR)	It is grazing land.
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b) Indicate and describe the habitat condition on site

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	2%	Area is degraded and under agricultural practices.
Near Natural (includes areas with low to moderate level of alien invasive plants)	8%	Area is degraded and under agricultural practices. There are exotic trees and plants introduced due to human habitation.
Degraded (includes areas heavily invaded by	30%	Area is degraded and under agricultural practices. There are exotic trees and plants introduced due to human habitation.

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“JWALE KE NAKO YA KOTULO, RE A KUBELE TSA”

BASIC ASSESSMENT REPORT

alien plants)		
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	60%	It is an old farm structures. Also road infrastructure. Area is degraded and under agricultural practices. There are exotic trees and plants introduced due to human habitation.

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site

Ecosystem Present: Central Free State Grassland

Status: Vulnerable

; 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)	Endangered	Wetland		Estuary		Coastline	
		NO		NO		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)

Flora of the Study Area

The study area is situated in the Vaal-Vet Sandy Grassland ecosystem. It is Plains-dominated landscape with some scattered, slightly irregular undulating plains and hills. Mainly low-tussock grasslands with an abundant karroid element. Dominance of *Themeda triandra* is an important feature of this vegetation unit. Locally low cover of *T. triandra* and the associated increase in *Elionurus muticus*,

Cymbopogon pospischilii and *Aristida congesta* is attributed to heavy grazing and/or erratic rainfall.



Ecosystem of the study area.

A Threatened species and Species of Conservation Concern list for the Grids 2727AD was obtained from the Plants of South Africa (POSA) database on the South African National Biodiversity Institute (SANBI) website. Threatened species are those that are *facing high risk of extinction, indicated by the categories Critically Endangered, Endangered and Vulnerable*. Species of Conservation Concern include the Threatened Species, but additionally contain the categories Near Threatened, Data Deficient, Critically Rare, Rare and Declining. This is in accordance with the new Red List for South African Plants (Raimondo *et al.* 2009). However, the POSA list is based on herbarium specimens housed in the National Herbarium of SANBI; therefore, many plant species that do occur in the area are not listed.

The following possible red data plant species (by the categories Critically Endangered, Endangered and Vulnerable) could occur in the areas surrounding the study area (according to the POSA database for grid 2727AD):

- None.

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Fauna of the Study Area

The study area is stretched over a relatively small area. No Red Data Book Species were encountered.

Mammals of the study area

Possible smaller mammals that would commonly occur in the wider surrounding area are: Southern African Mole-rat (*Cryptomys hottentotus*) and Scrub Hare (*Lepus saxatilis*). No Red Data Book species were recorded. There are also no records of red data (Critically Endangered, Endangered and Vulnerable) mammals for the wider area (2727AD).



Avifauna

According to available literature, approximately 168 bird species occur in the Lindley quarter degree grid cell (2727AD). The following Red Data species were recorded on site or flying over the site:





- None.

According to Barnes (2000) and South African Bird Atlas Project 2, the following bird species are threatened in the wider area, with a regional red-list status of Vulnerable, Endangered or Critically Endangered.


List of possible red date avifauna on or near the site.

SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Neotis denhami</i>	Denham's bustard	
<i>Balearica regulorum</i>	Grey Crowned Crane	

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SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Polemaetus bellicosus</i>	Martial Eagle	
<i>Falco biarmicus</i>	Lanner Falcon	
<i>Circus maurus</i>	Black Harrier	
<i>Geronticus calvus</i>	Southern Bald Ibis	
<i>Mycteria ibis</i>	Yellow-billed Stork	

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SCIENTIFIC NAME	COMMON NAME	IMAGE
<i>Sagittarius serpentarius</i>	Secretarybird	

Herpetofauna

No Red Data species was recorded. And no amphibians or reptiles were encountered on site. This might be due to the lack of suitable or specialised searching techniques that is required, as well as the history of anthropogenic activities on site.

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

SCIENTIFIC NAME	COMMON NAME
<i>Kassina senegalensis</i>	Bubbling Kassina
<i>Amietia delalandii</i>	Delalande's River Frog
<i>Cacosternum boettgeri</i>	Common Caco
<i>Agama atra</i>	Southern Rock Agama

Aquatic Ecosystems

There are no natural aquatic ecosystems on-site. A small dam exist 335m to the west southwest of the Site.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Parys Gazette	
Date published	29 September 2022	
Site notice position	Latitude	Longitude
	27°16'18.93"S	27°22'1.76"E
Date placed	30 September 2022	

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

The Public Participation Process was conducted 30 September 2022 and is still in progress.

- Background Information Documents (BIDs) were distributed to adjacent landowners as well as other Interested and Affected Parties (I&APs) from 29 to 30 September 2022.
- Site notice was erected/placed at the entrance to the property on 30 September 2022.
- A press advert was placed in the 'Parys Gazette' newspaper on the 29th of September 2022.
- The ward councillor (Ward 21), local municipality, Water Affairs and Sanitation and FSPHRA was informed by means of Background Information Document (written notification/email) in this period.

The anticipated impacts and issues, positive and negative, were identified from I&APs, in order to determine their potential significance and the need for further assessment during the subsequent EIA process which is in progress.

BASIC ASSESSMENT REPORT

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)
Municipal Manager Ms Seithati Monyaki	Moqhaka Local Municipality Physical Address: Hill Street Kroonstad Postal Address: PO Box 302 Kroonstad 9500	Tel: 056 216 9911/9900 Fax: 056 216 9122 E-mail: monyakis@moqhaka.gov.za
W Grobler Department Water and Sanitation	Dept. Water and Sanitation Bloem Plaza Building C/o Charlotte Maxeke and East Burger Streets Bloemfontein	Tel (W): 051 405 9000 E-mail: groblerw@dws.gov.za
Ntando PZ Mbatha Heritage Coordinator	Department of Sport Arts Culture and Recreation - Heritage FS	Tel: 051 410 4750 Fax: 086 401 0431 Cell: 074 945 3255 Email: Mbatha.npz@sacr.fs.gov.za
Cllr. Motloheloa Ellis Mokatsane (Executive Mayor) Mr. Simon Mncedisi Mqwathi (Municipal	Ward 21 Moqhaka Local Municipality Physical Address:	Tel: 056 216 9911/9900 Fax: 056 216 9122 E-mail: monyakis@moqhaka.gov.za 'custcare@moqhaka.gov.za'; 'emily@moqhaka.gov.za';

BASIC ASSESSMENT REPORT

Manager) Ward Cllr. of Ward 21	Hill Street Kroonstad Postal Address: PO Box 302 Kroonstad 9500	'lerator@moqhaka.gov.za'; 'louis@moqhaka.gov.za'; 'mamollom@moqhaka.gov.za'; 'tokeloq@moqhaka.gov.za'; 'ria@moqhaka.gov.za'; 'rentia@moqhaka.gov.za'; 'micha@moqhaka.gov.za'
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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
None to date.	

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:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Municipal Manager Ms Seithati Monyaki	Moqhaka Local Municipality Physical Address: Hill Street Kroonstad Postal Address: PO Box 302 Kroonstad 9500	Tel: 056 216 9911/9900 Fax: 056 216 9122 E-mail: monyakis@moghaka.gov.za
W Grobler Department Water and Sanitation	Dept. Water and Sanitation Bloem Plaza Building C/o Charlotte Maxeke and East Burger Streets Bloemfontein	Tel (W): 051 405 9000 E-mail: groblerw@dws.gov.za
Ntando PZ Mbatha Heritage Coordinator	Department of Sport Arts Culture and Recreation - Heritage FS	Tel: 051 410 4750 Fax: 086 401 0431 Cell: 074 945 3255 Email: Mbatha.npz@sacr.fs.gov.za
Cllr. Motloheloa Ellis Mokatsane (Executive	Ward 21	Tel: 056 216 9911/9900 Fax: 056 216 9122

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Mayor) Mr. Simon Mncedisi Mqwathi (Municipal Manager) Ward Cllr. of Ward 21	Moqhaka Local Municipality Physical Address: Hill Street Kroonstad Postal Address: PO Box 302 Kroonstad 9500	E-mail: monyakis@moqhaka.gov.za 'custcare@moqhaka.gov.za'; 'emily@moqhaka.gov.za'; 'lerator@moqhaka.gov.za'; 'louis@moqhaka.gov.za'; 'mamollom@moqhaka.gov.za'; 'tokeloq@moqhaka.gov.za'; 'ria@moqhaka.gov.za'; 'rentia@moqhaka.gov.za'; 'micha@moqhaka.gov.za'
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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 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.

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

TO FOLLOW WILL BE A COMPLETE IMPACT ASSESSMENT OF ALL ALTERNATIVES. NO IMPACT ASSESSMENT WILL BE ATTACHED IN APPENDIX F.

a) Introduction and Methodology

This section of the BAR provides a list of the biophysical and social issues that can be expected as a result of the proposed development. Some of the issues are localised in their effects, whilst others could influence a more extensive area. A major aim of the BAR is to identify issues and impacts, with inputs from all the specialists on this project, and to assess the impacts identified.

The identification and descriptions of the relevant physical, biological, socio-economic and heritage issues were conducted under the following headings in the table below:

- Environmental aspects: defined as those actions on site that may potentially have an environmental impact;

- Environmental component to be impacted upon;
- Locality / applicable zone of the impact;
- Nature and description of the impact/issue before mitigation; and
- Nature of the impact/issue after mitigation.

An impact significance rating and evaluation, for the listed aspects, forms part of the EIA process. Significant environmental issues have also been identified by means of the relevant environmental legislation, the opinions of specialist consultants and the views of interested and affected parties.

Most of the identified and anticipated negative impacts listed below will only take effect once the construction of the proposed development commences; the main period of positive impact occurrence is during the long term “operational” phase of the development when it is felt that the broader community will benefit from the project in terms of job creation. The long term negative operational impacts however will also be experienced by the close-by residence in terms of noise and other traffic issues such as access to and from the area.

There are numerous assessment methodologies and approaches within the international sphere of assessing the potential impact of development activities on the environment.

When a particular method for environmental impact analysis is selected or used certain general principles must be kept in mind to avoid the mystique and pseudo-science, which cloud many planning procedures. In general terms an environmental assessment evaluation comprises four main tasks:

1. Collection of data;
2. Analysis and interpretation of this data;
3. Identification of significant environmental impacts;
4. Communication of the findings.

Further to the above the proposed mitigation and management options for the identified impacts must be provided. The selected impact evaluation method must enable these four tasks. Impact methodologies provide an organised approach for predicting and assessing these impacts. Any one methodology and approach will have opportunities and constraints, as well as resource and skill demands, and no one method is appropriate for all South African circumstances. The selected methodologies proposed by this document are appropriate for most South African situations, taking the above criteria into account. Methods whose approach to considering environmental factors is systematic are desirable in an EIA.

Impact assessment methodology should comply with the following set of criteria:

- a. Be comprehensive: The environment consists of intricate systems of biotic and abiotic factors, bound together by complex relationships. The methodology must consider the impact on these factors.
- b. Be flexible: Flexibility must be contained in the methodology, as projects of different size and scale result in different types of impacts.
- c. Detect true impact: The actual impact that institutes environmental change, as opposed to natural existing conditional changes. Long-term and short-term changes should be quantified.
- d. Be objective: The methodology must be objective and unbiased, without interference from external decision-making.
- e. Ensure input of required expertise: Sound, professional judgement must be assured by a methodology.
- f. Utilize the state of the art: Draw upon the best available analytical techniques.
- g. Employ explicitly defined criteria: Evaluation criteria used to assess the magnitude of environmental impacts should not be arbitrarily assigned. The methodology should provide explicitly defined criteria and explicitly stated procedures regarding the use of these criteria, including the documented rationale.
- h. Assess actual magnitude of impacts: A method must be provided for an assessment based on specific levels of impact for each environmental concern.
- i. Provide for overall assessment of total impact: Aggregation of multiple individual impacts is necessary to provide an evaluation of overall total environmental impact.
- j. Pinpoint critical impacts: The methodology must identify and emphasize particularly hazardous impacts.

The evaluation of the severity (or significance) of the identified impacts has been done according to a set and objective Significance Rating Methodology, which uses both quantitative and subjective measures. The framework of this methodology is listed below, which fully explains the rating procedure used and how the construction and operation values given in Table 6 were derived.

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Impact Significance Methodology:

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

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

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

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

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

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

Short term	≤ 1 to 5 years Factor 2
Moderate term	5 - 15 years Factor 3
Long term	Impact will only cease after the operational life of the activity, either because of natural process or by human intervention. Factor 4
Permanent	Mitigation, either by natural process or by human intervention, will not occur in such a way or in such a time span that the impact can be considered transient. Factor 5

The **severity rating** is obtained from calculating a severity factor, and comparing the severity factor to the rating in the table below, for example:

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The Severity factor	Intensity factor X Duration factor 2 X 3 = 6
A Severity factor of 6 (six) equals a Severity Rating of Moderate severity (Rating 3) as per table below: Severity Ratings	
	FACTOR
Low Severity (Rating 2)	Calculated values 2 to 4
Moderate Severity (Rating 3)	Calculated values 5 to 8
High Severity (Rating 4)	Calculated values 9 to 12
Very High Severity (Rating 5)	Calculated values 13 to 16 and more
Severity factors below 3 indicate no impact	
A Significance Rating is calculated by multiplying the Severity Rating with the Probability Rating: The significance rating should influence the development project as described below:	
Low significance (calculated Significance Rating 4 to 6)	
	Positive impact and negative impacts of low significance should have no influence on the proposed development project
Moderate significance (calculated Significance Rating \geq 7 to 12)	
	Positive impact Should indicate that the proposed project should be approved
	Negative impact: - Should be mitigated or mitigation measures should be formulated before the proposed project can be approved
High significance (calculated Significance Rating \geq 13 to 18)	
	Positive impact: Should points towards a decision for the project to be approved and should be enhanced in final design
	Negative impact: - Should weigh towards a decision to terminate proposal, or mitigation should be formulated and performed to reduce significance to at least low significance rating.
Very High significance (calculated Significance Rating \geq 19 to 25 and more)	

b) Activities and Impacts Identified, with Impact Assessment

The description and identification of anticipated impacts is based on the listing of environmental aspects. Environmental aspects, for the purposes of this document, is the term used to describe the actions that may have an impact on one or more of the environmental components listed. It is important to note that aspects that are

clearly definable have been used in preference to those that are duplicative, redundant, difficult to measure, and/or obscure.

An impact is defined as any change in the physical, chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities relative to alternatives under study for meeting a project need. Therefore, the identified environmental aspects are said to have an impact on the components listed above if they result in change.

One of the most important objectives of conducting an Environmental Impact Assessment is to identify and evaluate these aspects and impacts. Consequently, the EMPr will consist of the preferred mitigation and management options for the identified impacts assessed as being significant. These will be described within this BAR (and EMPr).

The environmental aspect and the resultant impact can become manifest during the construction phase (C) and/or the operational phase (O), which is the stage when the proposed development is complete and fully functional.

The following table provides a list of activities (environmental aspects) that will occur on site and it provides an outline of the potential impacts that these actions will have on the environment, the anticipated effects on the biophysical and social aspects. The identification of the aspects and impacts may be expanded as more information becomes available when the specialist studies are completed. At this stage, the table below provides a list of impacts and issues. Below is an impact assessment of the impacts identified in the Table below in relation to the surrounding land-uses.

The identified impacts are rated in terms of their significance during the construction phase and the operational phase of the proposed road. The identified impacts on the physical, ecological and social components of the site are discussed in terms of:

- Vegetation component of the site;
- Faunal component of the site;
- Possible impact on Red Data Fauna and Flora;
- Soil surface (stability);
- Topsoil layer (disturbance and compaction);
- Subsurface soil quality;
- Topography;

- Geology;
- Surface drainage and existing water bodies (wetland within the study area);
- Surface water run-off (quality);
- Groundwater resources (quality);
- Air quality (due to dust generation);
- Ambient noise levels;
- Cultural historical elements;
- Social environment (of adjacent landowners);
- Traffic safety aspects (safety of the community);
- Land use options and agricultural potential of the site;
- Visual and aesthetic quality;
- Local economy (due to job creation); and
- Impact on the community (due to provision of affordable electricity).

It should be noted that the impact significance rating is given presuming that no mitigation measures are to be implemented during the construction or operational phase of the project (this would imply a worst case scenario).

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List of activities (environmental aspects) that will occur on site for the **Proposed/Preferred Activity**, the potential impacts that these activities may have on the environment and a description of the nature of the impact (c: construction stage; o: operational phase). The impacts rated, at this stage of high importance, are marked with a red triangle **△**; leaning towards high significance impact.

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

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			This impact is of negative low significance	
Stockpiling of excavated material (C)	Soil and vegetation cover.	Precise location still to be determined; the impacts on soil and vegetation will occur wherever stockpiles are established. Wherever possible, the stockpiles should be placed in non-sensitive areas.	<p>Stockpiles cause compaction of the soil, which promotes the establishment of weed species. The establishment of weeds greatly reduces the pristine quality of the natural vegetation on site. Stockpiles should not be situated within 200 m from any water bodies or water courses, as sedimentation transport into such systems is undesirable.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>Stockpiles must not exceed 2 metres in height. Stockpiles must be used for filling material as the re use of stockpiles cannot be done on the development. By using the stockpiles as filling material for the sides, vegetation growth can be promoted by the seeds still contained in the topsoil layer.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p> <p>This impact is of negative low significance</p>
Stockpiling building materials (C)	Soil and vegetation cover.	The impact is of a localized nature.	Stockpiles will need to be established for the storage of aggregate, bricks and cement. As mentioned, stockpiles cause compaction of the soil	Building material stockpiles must not be stockpiles within any of the riparian areas. Any alien vegetation that established itself because of

BASIC ASSESSMENT REPORT

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>surface, which leads to the growth of unwanted weed species.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>disturbance need to be eradicated.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p> <p>This impact is of negative low significance</p>
<p>Installation and operation of <u>temporary sewerage systems</u> for construction workers.</p>	<p>Soil layers, vegetation cover and groundwater.</p>	<p>Very localised and of a temporary nature.</p>	<p>The placement of chemical toilet systems and the servicing thereof will not have an impact on the environment, if operated according to requirements. Temporary toilets left unmanaged can leak raw sewage and effluent into the soil, surface and even ground water sources. △</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term)</p>	<p>Temporary toilets need to be managed and serviced on a regular service schedule. This schedule has to be recorded and controlled by the contractor on site. Regular disposal of waste needs to be done by a contracted disposal company. No temporary toilets will be allowed within 100 metres from any of the drainage lines.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity)</p>

BASIC ASSESSMENT REPORT

ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Severity = 4x4=16 (rating 4) Significance = 4x4=16 This impact is of negative high significance before mitigation.</p>	<p>Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance= 3x2=6 This impact is of negative low significance</p>
Provisions for storm water i.e. storm water drainage (C)	Soil surfaces, vegetation cover and drainage patterns.	Areas where surface water run-off is collected i.e., like from compacted surfaces, gutters and structures, as well as road surfaces. As well as diverting stormwater around the feedlot itself.	<p>Poorly implemented storm water outlets will result in increased surface run-off volume and speed, which could lead to the creation of erosion gullies. Storm water must be allowed to spread out gradually over a large surface area to protect the soil surface against erosion. Inadequate designed storm water outlets can lead to flooding of the road surface which is dangerous.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Storm water outlet designs have to be done and construction undertaken within the correct design documents from the civil engineer. Vegetation cover needs to be established on bare soil areas to prevent erosion due to storm water.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
Maintenance of storm water management systems (O)	Soil surfaces, drainage patterns and surface water.	In all areas where storm water management systems have to be created.	<p>Storm water management will particularly be important with careful design eminent at the crossing of any natural drainage ways. Storm water outlets can get blocked due to debris and other substances that are washed from the hard surfaces. This includes siltation due to soil erosion.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Maintenance of storm water outlets is required to ensure that they don't get blocked (i.e. no longer fulfil their function) or result in erosion. The custodian of the development has to perform regular checks and maintenance.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Excavations in general	Potential impact on elements of cultural or heritage importance.	Localised if these may occur	<p>No indication of such impacts. But this will be confirmed in the Heritage report. It is possible that historically important items or graves could be uncovered if construction commences.</p> <p>Probability = 3 (probable)</p>	<p>If any artefacts, graves or articles of historical importance are found during construction, the construction activities have to be stopped and the area fenced off. A heritage consultant will have to be appointed to take any further related steps such as relocation.</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Generation of construction waste (C)	Soil, vegetation, aesthetic quality of the site and surface water run-off, water and ground water resources.	All construction sites and directly adjacent areas.	<p>Waste, such as building rubble and empty cement bags can be a negative visual impact if not collected and disposed of correctly. Further to littering the site and adjacent areas, poor control and illegal dumping of construction waste can pollute surface water run-off, as well as lead to the promotion of weed species. △</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4)</p>	<p>Building rubble has to be collected at a centralized area and preferably in skip waste bins. No illegal dumping may be allowed in the construction phase, and this will have to be checked and monitored by the appointed Environmental Control Officer.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Significance = $4 \times 4 = 16$</p> <p>This impact is of negative high significance before mitigation.</p>	This impact is of negative low significance
Site & Road maintenance (O)	Vegetation and soil surface conditions, as well as social well-being of the residents of the area.	The site needs to be maintained.	<p>Poorly maintained storm water drainage structure will cause abnormal soil erosion at outlets.</p> <p>Therefore, site & road maintenance is essential.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = $2 \times 4 = 8$ (rating 3) Significance = $3 \times 3 = 9$</p> <p>This impact is of negative moderate significance</p>	<p>Site & road maintenance is essential and is the responsibility of the property owner in the operational phase.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = $2 \times 2 = 4$ (rating 2) Significance = $3 \times 2 = 6$</p> <p>This impact is of negative low significance</p>
Collection and disposal of solid construction waste (C)	Aesthetic quality, surface water run-off, subsurface and groundwater quality, vegetation and fauna.	The site and directly adjacent areas.	<p>Poor waste collection and handling will pollute the environment (affecting fauna, groundwater, surface water and aesthetic environment).</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity)</p>	<p>No illegal dumping of domestic and construction related waste should be tolerated. Domestic construction waste has to be collected into central waste skip disposal units.</p> <p>Probability = 3 (improbable)</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Traffic movement (C)(O)	Noise levels around the development due to the movement of additional traffic.	Noise impact of a local nature along the development. Closer community.	<p>The movement of traffic (during construction and operation) around the development will have an impact on the ambient or prevailing noise levels.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Noise mitigation measures are required in order to keep the noise generated by construction activities as low as possible – given the site’s relatively close proximity to some residential areas. This can be achieved by ensuring that only well-oiled, well-maintained machinery is used, as such machinery will produce less noise than poorly serviced machinery. For example, poor maintenance of exhaust systems will produce unnecessary noise pollution. Furthermore, working hours for construction should be limited to between 07h00 and 17h00 on weekdays, as construction outside of these time frames will be a nuisance to adjacent dwellers. On operational</p>

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				<p>phase the general business day noise will be the same as for the surrounding developments.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Temporary employment created during the construction phases of the proposed development(C)	Social aspects	All sites where construction related activities are to take place.	There will be positive impacts in terms of social upliftment and job creation within the broader region.	
Transportation of workers to and from the development site (C)	Air quality, soil surface and social aspects (including traffic and worker safety).	The road safety of the region. A local issue.	<p>Vehicles used to transport workers can be overloaded; worker safety is of utmost importance. Vehicles used to transport workers which exceed the speed limit are dangerous.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity)</p>	<p>Traffic safety measures have to be implemented by the contractor. Correct signage and safety clothing needs to be in place. Construction workers need to be transported to and from the site on a safe manner.</p> <p>Probability = 3 (improbable)</p>

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			<p>Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Construction camp establishment (C)	Aesthetic impacts, social aspects, subsurface and groundwater quality, generation of domestic waste, vegetation removal, soil surface compaction and faunal impacts.	Location still to be determined.	<p>The generation of domestic waste, as well as the provision of sewage facilities, within the construction camp could potentially impact on the aesthetics of the site as well as the quality of subsurface and groundwater if not properly managed and implemented. The removal of sections of natural vegetation would most likely be needed for the establishment of the camp, and soil surfaces would become compacted as a result of activities within the camp.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term)</p>	<p>Proper management of any temporary toilets need to be undertaken on a strict schedule. The construction camp must be more than 100 metres away from any water bodies. Construction camps</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			<p>Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	
Housing of workers during construction (C)	Aesthetic character, soil and vegetation, surface water quality and social aspects.	The possibility of housing construction workers on site.	<p>The establishment of housing for workers will have a localised impact on the soil and vegetation cover of the chosen site, as well as potentially having a negative impact on the quality of surface water – as a result of domestic waste, and sanitation facilities for example, if these are not properly addressed. Safety is also a concern to residence and stay of workers on site should not be encouraged.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>Housing of workers on site, at the construction camp, is a possibility. Preferably only security should look after equipment at night-time hours. If workers are housed near residential areas, it could create a safety concern.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Sanitation provision to workers during	Subsurface soil, surface water	Insufficient chemical toilets	Insufficient chemical toilets will have a health	Sufficient chemical toilets should be provided for

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the working day (C)	and subsurface water quality.	will have a health impact locally.	<p>impact. Subsurface soil contamination and contamination of surface/subsurface water quality could occur if the ablution facilities provided are not according to standard. A temporary impact is possible; however, it can easily be prevented.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>workers, in the range of 1 per every 8 workers, within walking distance of all construction activities. These toilets must be well maintained and inspected on a daily basis to ensure that they are clean and functioning properly. No washing of people and/or goods should take place on cleared surfaces, as this water should not be allowed to drain into any adjacent storm water canals or drainage lines.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Movement of construction vehicles on site (C)	Air quality, soil and vegetation cover.	Potential impacts may be eminent over a wide area if not carefully managed and	Movement will cause limited or localised disturbances and temporary soil compaction, which promotes the establishment of weed species. Dust	Alien plant species need to be controlled and it must be ensured that weeds are removed. Dust depression measures such as watering the bare

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		restricted.	<p>will be generated by vehicular movements on site.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>surfaces need to be implemented.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p> <p>This impact is of negative low significance</p>
Maintenance of construction vehicles (C)	Soil, vegetation and surface water.	Within the construction camp(s).	<p>In the event of on-site repairs and servicing, soil surfaces, vegetation, and run-off may be locally contaminated. Spillage of fuel through faulty bowser is a possibility, if not controlled. It is anticipated that fuel storage facilities will occur on the site. If poorly installed or managed, it will cause pollution.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term)</p>	<p>The construction camp has to be identified and communicated to the ECO as soon as its position is available. Any fuel depot areas have to be banded and where fuel hoses will operate, absorbing gravel needs to be provided. This area can also be lined with a small piece of plastic below the gravel. As soon as any spillages occur, the gravel has to be collected and disposed of as hazardous waste.</p> <p>Probability = 3 (improbable)</p>

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			Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance	Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance
Traffic safety on the main roads (C and O)	Social aspects.	At all places where there will be interaction with the local traffic along existing routes as well as traffic moving through the area.	Motorists using the main roads and alternative roads may be negatively impacted on by slow moving construction vehicles. △ Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance = 4x4=16 This impact is of negative high significance before mitigation.	Traffic safety measures have to be implemented to ensure that the general public is safe. Adequate traffic signage has to be implemented where any heavy vehicles will cross the main roads. Adequate clothing that is visible should be provided to the workers. Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
<p>Noise generation by operating air compressors, excavators and other heavy machinery. Noise is also generated by the construction workers (C)</p>	<p>Impacts on faunal surrounding landowners.</p>	<p>Areas on and surrounding site at which construction activities take place.</p>	<p>Excessive noise levels on site may negatively impact upon the behaviour and movements of site fauna. Surrounding landowners may also potentially be negatively impacted upon by excessive noise levels on site during construction. Δ</p> <p>Probability = 4 (highly probable) Intensity = 4 (moderate intensity) Duration = 4 (long term) Severity = 4x4=16 (rating 4) Significance= 4x4=16 This impact is of negative high significance before mitigation.</p>	<p>Noise mitigation measures are required in order to keep the noise generated by construction activities as low as possible – given the site's relatively close proximity to some residential areas. This can be achieved by ensuring that only well-oiled, well-maintained machinery is used, as such machinery will produce less noise than poorly serviced machinery. For example, poor maintenance of exhaust systems will produce unnecessary noise pollution. Furthermore, working hours for construction should be limited to between 07h00 and 17h00 on weekdays, as construction outside of these time frames will be a nuisance to adjacent dwellers.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3)</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
				Significance = 3x3=9 This impact is of negative moderate significance
Heritage (C)	Heritage or historical components	Nothing near the site.	The proposed development for each site is to be conducted not close to any possible cultural historical elements. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance	If any areas of historical significance are discovered during construction, work should be stopped, and a cultural specialist should investigate the site. The first contact can be made with the EAP on site. Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance
Impact on the wetland (C) (O)	Water quality, and soil	The is a dam and drainage line 335m southwest of the site. Although it is very small	Possible impacts on the wetland/drainage lines could be caused by the construction activities, as well as possible siltation into the wetland.	Although the wetland/drainage lines areas are not inside the footprint of each site. If construction and operation activities stick to their designated areas,

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		area.	<p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9 This impact is of negative moderate significance</p>	<p>then very little to no impact should occur to the wetland system.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6 This impact is of negative low significance</p>
Movement and survival of Animal species	Fauna of the site	Within the site	<p>The construction will have an effect on the animals present within the site. These impacts will include habitat destruction. It will also limit movement of species through the site.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance = 3x3=9</p>	<p>Specialist studies will determine an overview of the habitat present on-site. No red data fauna and flora have been recorded during the EAP's site visit.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p>

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ENVIRONMENTAL ASPECT AND PROJECT STAGE	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	LOCALITY / APPLICABLE ZONE OF THE IMPACT	NATURE AND DESCRIPTION OF THE IMPACT/ISSUE BEFORE MITIGATION	NATURE OF THE IMPACT/ISSUE AFTER MITIGATION
			This impact is of negative moderate significance	This impact is of negative low significance
Construction of the proposed development on red data animals	Animals	On-site	<p>The construction of the proposed development will influence animal life and habitat. No red data species were recorded during the site visits.</p> <p>Probability = 3 (probable) Intensity = 2 (low intensity) Duration = 4 (long term) Severity = 2x4=8 (rating 3) Significance= 3x3=9</p> <p>This impact is of negative moderate significance</p>	<p>Although habitat will be lost, proper rehabilitation of the site, not used, could lessen the severity of the impact.</p> <p>Probability = 3 (improbable) Intensity = 2 (low intensity) Duration = 2 (short term) Severity = 2x2=4 (rating 2) Significance = 3x2=6</p> <p>This impact is of negative low significance</p>

SUMMARY OF THE SIGNIFICANCE RATING OF THE ANTICIPATED IMPACTS FOR THE CONSTRUCTION PHASE

ENVIRONMENTAL AND OTHER COMPONENTS TO BE AFFECTED BM = before mitigation AM = after mitigation	Probability value	Intensity value	Duration value	Severity value	Significance rating
Impact on the vegetation component of the site	BM: 3 AM: 3	2 2	2 2	2 2	6: Low (negative) 6: Low (negative)
Impact on the faunal component of the site	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on Red Data Fauna and Flora	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on soil (surface stability)	BM: 3 AM: 2	2 1	2 4	2 2	6: Low (negative) 4: Low (negative)
Impact on soil (topsoil layer - disturbance and compaction)	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on subsurface soil quality	BM: 2 AM: 2	2 2	2 4	2 3	4: Low (negative) 6: Low (negative)
Impact on topography	BM: 2 AM: 0	2 0	2 0	2 0	4: Low (negative) 0
Impact on geology	BM: 2 AM: 0	2 0	2 0	2 0	4: Low (negative) 0
Impact on surface drainage and existing water bodies	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on surface water run-off quality	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on groundwater & surface water resources	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on air quality	BM: 4 AM: 2	2 2	2 2	2 2	8: Moderate (negative) 4: Low (negative)
Impact on ambient noise levels	BM: 4 AM: 2	4 2	4 2	4 2	16: High (negative) 4: Low (negative)
Impact on cultural historical &	BM: 2	2	2	2	4: Low (negative)

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ENVIRONMENTAL AND OTHER COMPONENTS TO BE AFFECTED BM = before mitigation AM = after mitigation	Probability value	Intensity value	Duration value	Severity value	Significance rating
archaeological elements	AM: 2	2	4	3	6: Low (negative)
Impact on the social environment of the adjacent landowners	BM: 4	2	2	2	8: Moderate (negative)
	AM: 2	2	2	2	4: Low (negative)
Impact on traffic safety aspects	BM: 4	2	2	2	8: Moderate (negative)
	AM: 2	2	2	2	4: Low (negative)
Impact on land use & agricultural potential	BM: 2	2	2	2	4: Low (negative)
	AM: 2	2	2	2	4: Low (negative)
Impact on visual and aesthetic quality	BM: 2	2	2	2	4: Low (negative)
	AM: 2	2	2	2	4: Low (negative)
Impact on local economy (due to job creation)	BM: 4	2	2	2	8: Moderate (positive)
	AM: 2	2	2	2	4: low (positive)
Impact on community (due to job creation)	BM: 2	1	2	2	4: Low (positive)
	AM: 2	1	2	2	4: Low (positive)

c) Cumulative Impacts

According to the definition in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Cumulative impact on other physical components such as natural vegetation and animal life, air quality and visual impact is regarded at this stage as of moderate significance, due to the outstretched and spacious nature of the landscape and the proposed development will tie into the current infrastructure and natural lay of the land of the area; possible secondary waste or pollution is predicted.

The possible cumulative impacts foreseen will be the loss of natural habitat, possible pollution into the natural environment. All impacts from the construction phase of the development should be continually mitigated. Thus, potentially no high significant cumulative impacts are predicted.

The possible cumulative impacts from similar developments connecting to this development.

ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
Vegetation clearance for the footprint of the development (C).	Soil layers, soil surface.	Seen at a wider scale the additional development and secondary developments are physically not connected, but the removal of vegetation cover, such that the soil surface is exposed, may lead to increased soil erosion in the area. Where the removal of natural vegetation is small in percentage to the whole activity it may add to a bigger combined loss of natural vegetation in the local area.
Excavations for the foundations of the development (C).	Soil layers and faunal habitat.	The existing natural vegetation will be permanently removed to accommodate the foundations of the necessary structures. Very little faunal habitat will also be affected in combination with the surrounding developments. Soil layers affected will be a localised impact and not cumulative.
Stockpiling of excavated material (C)	Soil and vegetation cover.	Stockpiles cause compaction of the soil, which promotes the establishment of weed species. This impact is of a temporary nature and not cumulative.

ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
Stockpiling building materials (C)	Soil and vegetation cover.	Stockpiles will need to be established for the storage of aggregate, concrete infrastructure and cement, etc. As mentioned, stockpiles cause compaction of the soil surface, which leads to the growth of unwanted weed species. This impact is of a temporary nature and not cumulative.
Provisions for storm water i.e., storm water drainage (C)	Soil surfaces, vegetation cover and drainage patterns.	Correct and efficient storm water drainage systems must be installed. Poorly designed storm water outlets will result in increased surface run-off volume and speed, which could lead to the creation of erosion gullies. All hard surfaces generate storm water, which should be controlled by preventing the storm water from crossing the road. Storm water must be allowed to spread out gradually over a large surface area to protect the soil surface against erosion. The surrounding developments may contribute to more erosion due to more cleared and open surfaces found at these developments.
Generation of construction waste (C)	Soil, vegetation, aesthetic quality of the site and surface water run-off, water and ground water resources.	Waste, such as building rubble and empty cement bags can be a greater negative visual impact, with the additional construction waste of the staff courters, if not collected and

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ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
		<p>disposed of correctly. Further to littering the site and adjacent areas, poor control and illegal dumping of construction waste can pollute surface water run-off, as well as lead to the promulgation of weed species.</p>
<p>General maintenance (O)</p>	<p>Visual quality, also surface water quality and vegetation cover.</p>	<p>The design and nature of the proposed development will determine the impact of the proposed development on the visual quality of the study area. Maintenance as a whole will prevent a further negative impact on the visual quality of the study area. The disposal of general solid waste and construction rubble (both during construction and maintenance of the development and staff courters) causes impacts on the natural environment (including faunal ecology, surface water and vegetation) if disposed of illegally. Compaction of soil surfaces and the propagation of weeds are typical impacts, but temporary.</p>
<p>Collection and disposal of solid domestic waste (O)(C)</p>	<p>Aesthetic quality, surface water run-off, subsurface and groundwater quality, vegetation and fauna.</p>	<p>Poor waste collection and handling on all the developments in and around the proposed development will pollute the environment (affecting fauna, groundwater, surface water and aesthetic environment). No illegal</p>

ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
		dumping of domestic waste will be tolerated. Untidy collection points and windblown refuse can cause human / animal conflicts, as foul odours from such areas will attract wild animals and cause other problems (pests / diseases), as well as water pollution.
Collection and disposal of construction waste (C)	Aesthetic quality, subsurface and ground water quality, vegetation and fauna.	No construction waste may be illegally dumped into the surrounding areas, as the effects of illegal dumping on the environment are devastating. Poor waste collection and handling on all the developments in and around the proposed development will have a negative impact on several environmental aspects. A waste collection agreement between the applicant and the local authority will be essential.
Long term employment opportunities and wealth to be generated by the proposed development (O)	Social aspects	There will be a positive impact in terms of social upliftment and job creation within the broader region.
Transportation of workers to and from the development site (C)	Air quality, soil surface and social aspects (including traffic and worker safety).	Poorly maintained vehicles will have a negative impact on air quality in terms of dust and emission. The tipper trucks from the nearby quarry will also add to the negative impact on air quality, but only during the construction phase.

ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
Construction camp establishment (C)	Aesthetic impacts, social aspects, subsurface and groundwater quality, generation of domestic waste, vegetation removal, soil surface compaction and faunal impacts.	The generation of domestic waste, as well as the provision of sewage facilities, within the construction camp could potentially impact on the aesthetics of the site as well as the quality of subsurface and groundwater if not properly managed and implemented. Soil surfaces would become compacted as a result of activities within the camp. These impacts will also add to the negative impact other close by developments has on the local area, but only during the construction phase.
Movement of construction vehicles on site (C)	Air quality, soil.	Movement will cause limited or localised disturbances and temporary soil compaction, which promotes the establishment of weed species. Dust will be generated by vehicular movements on site. The transport trucks from the nearby farms will also add to the negative impact on air quality, but only during the construction phase.
Traffic safety on the main road (C and O)	Social aspects.	The access point to the site; therefore, motorists using the main road may be negatively impacted on by slow moving construction vehicles. The transport trucks from the nearby farms will also

ENVIRONMENTAL ASPECT AND PROJECT STAGE C: construction stage O: operational phase	ENVIRONMENTAL COMPONENT THAT MAY BE AFFECTED	NATURE AND DESCRIPTION OF THE POTENTIAL <u>CUMULATIVE</u> IMPACT IN ASSOCIATION WITH THE SURROUNDING AREA
		add to traffic impact, but only during the construction phase.
Noise generation by operating air compressors, excavators and other heavy machinery. Noise is also generated by the construction workers (C)	Impacts on faunal species and surrounding landowners.	Excessive noise levels on site may negatively impact upon the behaviour and movements of site fauna. Surrounding landowners may also potentially be negatively impacted upon by excessive noise levels on site during construction. The tipper trucks and excavators from the nearby towns will also add to the noise impact, but only during the construction phase.

d) Feasibility and Comparison of Alternatives

Technology Alternative

Most, if not all, of the same impacts will occur as with the proposed development. If electricity from Eskom is not used, then renewable energy will be installed on the built environment. Therefore, adding no additional physical impact to the environment. See above (t Preferred/Proposed Activity Alternative) for the nature and description of impacts.

2. OPERATIONAL PHASE ASSESSMENT

IMPACTS ASSOCIATED WITH THE OPERATIONAL PHASE

Proposed/preferred Activity – Operational Phase (in relation to surrounding land uses)			
ENVIRONMENTAL / SOCIAL ASPECT	ENVIRONMENTAL / SOCIAL COMPONENT	NATURE AND DESCRIPTION OF IMPACTS / RISK OF THE IMPACT AND MITIGATION NOT BEING IMPLEMENTED	MITIGATION MEASURES
Emissions from the composting & manure process	Surrounding Public and land uses	Odours may occur / be generated from the composting process of sheep carcasses, as well as	The method employed for composting the carcasses is described in the EMP, in detail. This process will

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		from the dry solid fraction from the sheep manure.	dramatically reduce any odours. At this stage sheep carcasses are taken to lion farms for consumption.
Bleating of Sheep.	Ambient Noise Levels	Ad hoc bleating of sheep throughout the farming process.	The feedlot is designed to curb noise levels emanating from inside.
Farm Security	Health and Safety of personnel	Loss of production due to the theft of sheep and farm implements. Possible loss of life during armed robberies.	Security fencing will be upgraded around the farming operation as well as the employment of guards to patrol boundary and access to the farm.
Surface Water	Health of the environment.	Seepage/leaks of contaminants from the feedlot might reach surface water drainage areas. Pollution of surface water features as result of contaminated storm water runoff. An increase in traffic as well as the additional logistics (especially the storage of petroleum products) may result in hydrocarbon spillages.	Design wastewater containing structures according to applicable standards. Immediate action must be taken to contain spillage and prevent it from entering nearby streams or the surrounding environment. Ensure that the waste treatment dams area suitably lined and that the lining is maintained during operation. Contour the irrigation area in such a way as to cause storm water which might originate on the irrigation area to drain towards a wastewater containment dam. Storm water management dam must be managed with a freeboard of 0.8 m. Re-use water in dirty storm water containment dam first thus managing it to be empty when possible. Implement appropriate storm water management to direct clean storm water around the irrigation area. Apply wastewater to land in accordance with the appropriate guidelines.
Groundwater	Health of the environment.	Contamination of groundwater from leaching of dirty water from the feedlot.	The wastewater system of the feedlot site must be constantly maintained and monitored preferably by a contracted specialist. A groundwater monitoring borehole must be placed on

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			<p>the downstream side of the Sow unit site not more than 50 m downstream of this site.</p> <p>As and when contamination is detected the groundwater monitoring cycle must be shortened to a two-monthly cycle.</p> <p>Storm water originating on the feedlot site must be treated as dirty water. Clean and dirty water systems must be separated. Storm water must be directed away and around the feedlot site.</p> <p>All water retention structures, including storm water dams, retention ponds etc. should be constructed to have adequate freeboard to be able to contain water from the 1:50 year rain events.</p>
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SUMMARY OF THE SIGNIFICANCE RATING OF ANTICIPATED IMPACTS FOR THE OPERATIONAL PHASE

Assessment of the Significance of All Impacts (Operational Phase):

ENVIRONMENTAL AND OTHER COMPONENTS TO BE AFFECTED (during mostly the operational phase)	Probability value	Intensity value	Duration value	Severity value	Significance rating
Emissions from the composting & slurry process	3	4	4	5	15: High (negative)
Bleating of sheep	4	2	2	2	8: Moderate (negative)
Farm Security	4	2	2	2	8: Moderate (negative)
Surface water	3	4	4	5	15: High (negative)
Groundwater	3	4	4	5	15: High (negative)

Assessment of the Significance of All Impacts After Mitigation (Operational Phase):

ENVIRONMENTAL AND OTHER COMPONENTS TO BE AFFECTED	Probability value	Intensity value	Duration value	Severity value	Significance rating
Emissions from the composting & slurry process	3	2	2	2	6: Low (negative)
Bleating of sheep	3	2	2	2	6: Low (negative)
Farm Security	3	2	2	2	6: Low

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					(negative)
Surface water	4	2	2	2	8: Moderate (negative)
Groundwater	4	2	2	2	8: Moderate (negative)

NO GO ALTERNATIVE

Potential impacts:	Significance rating of impacts:
Impacts on vegetation cover and faunal habitats: o None. There was existing farm structures and farming done in the past. Any impact created was already done more than 60 years ago.	No impact
Impacts on soil (stability and erosion of disturbed surfaces): o None. There was existing farm structures and farming done in the past. Any impact created was already done more than 60 years ago.	No impact
Potential for surface water pollution: o None.	No impact
Potential for groundwater pollution: o None	No impact
Waste generation: o None. There was existing farm structures and farming done in the past. Any impact created was already done more than 60 years ago.	Low - Negative
Impacts due to fires: o None. here was existing farm structures and farming done in the past. Any impact created was already done more than 60 years ago. Random fire will occur throughout the year.	Low - Negative
Noise pollution: o There was existing farm structures and farming done in the past. Thus status quo will continue. Farming vehicles.	Low - Negative
Visual impact: There was existing farm structures and farming done in the past. Thus status quo will continue. Farm buildings and infrastructure onsite.	Low - Negative
Cultural / Historical elements on site: o None.	No impact
Air pollution: o There was existing farm structures and farming done in the past. Thus status quo	No impact

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will continue.	
<p>Traffic impact:</p> <p>There was existing farm structures and farming done in the past. Thus status quo will continue. Farming vehicles more in and out of the farm.</p>	Low - Negative
<p>Employment opportunities:</p> <p>There was existing farm structures and farming done in the past. Thus status quo will continue.</p>	Low - Positive

3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Proposal/preferred Activity & Technology Alternative

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
Visual impact. The site may become a derelict "eye sore" if the remaining structures are allowed to physically deteriorate.	Medium	Use of land for alternative land use. It is advisable to determine beforehand what would be done in future with the land on which the development is established for this application.	Low
Squatters may use the site and its structures as a place to dwell. This poses a potential environmental threat in terms of uncontrolled domestic waste and sewage disposal on site.	Medium	<p>If the farming operations ends and no other land-use / development is planned for this area, then all structure will have to be removed form site. This will have to be done by the owner of the land together with a licensed contractor to dispose of all waste to licensed landfill sites.</p> <p>The site will have to be rehabilitated by ripping the</p>	Low

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		<p>compacted areas and where possible bring in topsoil from the area to help establish natural vegetation on-site again.</p> <p>Weed control need to be done on a monthly basis until the natural vegetation has re-established.</p> <p>Proper fencing should be in place to prevent squatters settling on the vacant land.</p>
<p>If the development is transferred from the current owner to a new owner, then the new owner must also comply with all the requirements set out in the EMPr and Environmental Authorisation for this development. The new owner will also have to maintain the same or higher levels of operations set out by international commercial standard.</p>		

4. COMPARATIVE SUMMARY ASSESSMENT BETWEEN THE ALTERNATIVES

Environmental Aspects	Proposed/Preferred Activity & Technology Alternative	No – Go
Geology	No impact. Area too small and there is no detrimental geological feature on site.	No impact.
Topography	No impact.	No impact.
Soil, Land Capability and Land Use	Soil compaction. Possible soil erosion due to removed vegetation. Surface disturbance and topsoil removal.	Possible dumping on vacant and derelict land.
Flora	Stripping of surface vegetation during construction.	No impact.

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Environmental Aspects	Proposed/Preferred Activity & Technology Alternative	No – Go
	Possible sensitive flora on site.	
Fauna	<p>Removal of surface vegetation thereby depleting food sources.</p> <p>Human presence resulting in emigration of animals.</p> <p>The disturbances of the vegetation cover and natural habitat will have a limited impact on the wildlife.</p> <p>However, it should be viewed against the background of the disturbances by human movement and activities through the area.</p>	No impact.
Surface Water	<p>Impacts on the artificial wetland could be caused by the construction and operational phase.</p> <p>Drainage lines could be altered or blocked by construction activities.</p>	No additional impact.
Ground Water	<p>Low potential environmental impact predicted.</p> <p>Temporary toilets (chemical) left unmanaged can leak raw sewage and effluent into the soil, surface and even ground water sources, during the construction phase.</p> <p>Possible contamination of ground water from faulty or unmanaged effluent dams.</p>	No impact.
Air Quality	Low potential environmental impact. During the construction phase, dust could cause problems for nearby human settlements. During the operational	The air quality will be the same as it currently is.

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Environmental Aspects	Proposed/Preferred Activity & Technology Alternative	No – Go
	phase the air quality will be the same as it currently is.	
Noise	<p>Moderate potential environmental impact.</p> <p>Noise from the farm traffic will be an inconvenience to a certain extent for some existing properties adjacent to the site.</p>	No impact additional impact.
Visual	<p>No significant impact.</p> <p>This is all agricultural land, and the proposed development is also agricultural. Waste, such as building rubble and empty cement bags can be a negative visual impact if not collected and disposed of correctly.</p>	No impact.
Sensitive Landscapes	<p>There are no sensitive landscapes identified.</p> <ul style="list-style-type: none"> • Removal of surface vegetation thereby depleting food sources. • Human presence resulting in emigration of animals. • The disturbances of the vegetation cover and natural habitat will have a limited impact on the wildlife. However, it should be viewed against the background of the disturbances by human movement and activities through the area. • The movement of water into the wetland will be slightly altered by construction activities. 	No new or additional impact.
Sites of Archaeological and Cultural Interest	<p>No significant impact.</p> <ul style="list-style-type: none"> • Any structures older than 60 years are 	No impact.

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Environmental Aspects	Proposed/Preferred Activity & Technology Alternative	No – Go
	<p>protected by the National Heritage Resources Act (Act 25 of 1999). If these structures are earmarked for demolition/restoration/alteration a permit application must be submitted to the Provincial Heritage Authority of the Free State.</p> <ul style="list-style-type: none"> • Other than the above there are no other visible restrictions or negative impacts in terms of heritage associated with the site. • The discovery of subsurface archaeological and/or historical material as well as graves must be taken into account in the Environmental Management Programme. 	
Socio-economic	<p>Positive impact on the regional socio-economic structure through its support to the community, like:</p> <ul style="list-style-type: none"> ⤴ Job opportunities during the construction phase. ⤴ Local economic boost. 	Negative Impact due to no additional job opportunities created.
Interested and Affected Parties	None.	No impact.
Cumulative	<p>The cumulative impact of the development on the social environment is positive. More job creation opportunities.</p> <p>Seen at a wider scale the additional developments are not physically connected, but the removal of</p>	No impact. Status Quo.

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Environmental Aspects	Proposed/Preferred Activity & Technology Alternative	No – Go
	vegetation cover, such that the soil surface is exposed, may lead to increased soil erosion in the area and loss of habitat.	

5. 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 after 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 A (preferred alternative)

The proposed development will result in predominantly low negative environmental impacts if the appropriate mitigation measures are put into place for the duration of the proposed activities on site.

Impacts with the highest negative significance will occur during the construction phase of the proposed project. These impacts are however of a temporary nature.

Provided that the impact mitigation measures in the Environmental Management Programme as summarised in this Basic Assessment Report, are implemented, the mitigation of these and other identified impacts will be adequate and should not pose any environmental flaws that could prevent the authorisation of the proposed development.

Specialist information that will assist the Dept. in making a decision are as follows:

- Heritage Impact Assessment (HIA)
- Vegetation Impact Assessment
- Stormwater Management plan

In terms of feasibility of implementing water and energy efficiency technology:

1. The applicant will use the most efficient technology dictated by the sheep farming enterprise of today. This is also described in Section A point 3 of this report.
2. Renewable energy (solar panels) is also considered for the future in terms of generating electricity for the farm may serve the additional purposes of providing a site for the beneficial

reuse of additional co-digestion of suitable feedstock (organic waste material) in the surrounding vicinity.

Alternative B (activity alternative)

N/A.

Alternative C (technology alternative)

The impacts significance will be the same as above. The potential negative impacts associated with this alternative have been deemed to be of a low negative significance (once mitigated), according to the impact significance rating methodology used.

No-go alternative (compulsory)

If the status quo is maintained:

Nothing will be done to reduce the environmental impacts currently happening on site. On the other hand, no additional job opportunities will be created, and no contribution will be made to the upliftment of the community and infrastructure development. Thus, if not upgraded this positive impact will not be seen.

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

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.

Recommendations:

It is recommended that the proposed/preferred activity is approved, subject to the following conditions:

General conditions proposed:

- All mitigation measures as described in this report should be adhered to by the developer (these measures will be made part of the EMPr).
- The conditions of the Environmental Authorization from the Dept. should be written into the EMPr and be implemented as such.
- The recommendations of the specialist studies, as listed and to be attached in the appropriate appendices of the Final Basic Assessment Report must be implemented.
- The EMPr as attached to this document should be made part of the contractual documents of contractors. The project manager must also account for the cost of this document's implementation before construction takes place.
- The impact mitigation measures recommended in the Basic Assessment Report should be adhered to. Any service provision, if needed, to the proposed development should be granted by the local authority prior to the commencement of any construction activities on site.

In the opinion of the consultant, there are no environmental impacts that have been identified that will be detrimental to the environment to such an extent that the proposed development should not be permitted, nor were any sensitive environmental components or fatal environmental flaws identified within the proposed development area. Great care was taken when determining the layout of the proposed development to ensure that areas with high environmental sensitivity were avoided.

Is an EMPr attached?

YES

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.

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

Rowan van Tonder

NAME OF EAP

1 November 2022

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

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)

- Heritage Impact Assessment
- Vegetation Impact Assessment
- Stormwater Management Plan

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

- Composting mortalities.
- Screening Tool Report.

“JWALE KE NAKO YA KOTULO, RE A KUBELETSA”