

Final Basic Assessment Report

Prepared By:

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September, 2020

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Prepared For:

**Department of Rural Development
and Land Reform**

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BASIC ASSESSMENT REPORT



destea

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

(For official use only)

File Reference Number:

EMB/27/20/16

Application Number:

Date Received:

15/08/2020

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

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 as amended and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **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.
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.

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

SECTION A: ACTIVITY INFORMATION

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

YES	NO
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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

Environmental Management Group has been appointed by SMEC South Africa for the Department: Rural Development and Land Reform to conduct the Basic Assessment application of the Sediba Farmer Production Support Unit (FPSU)

The proposed development is situated about 100m from the Sediba village. The proposed development entails a Farmer Production Support Unit (FPSU). The FPSU is a rural small-holder farmer outreach and capacity building unit that links farmers with markets. The FPSU does primary collection, some storage, provides some processing for the local market, and extension services including mechanisation. The Proposed land uses include:

- Security Offices – 27m²
- Reception and admin offices – 440m²
- Office and Storage shed – 600m²
- Logistic Centre – 350m²
- Multi-purpose animal handling facility/Sheep shearing – 300m²

This development will be constructed in two phases. Phase 1 of the development includes the construction of the office and storage shed for which no EA was required (Appendix L). Phase 2 of the development will include an additional construction of Security Offices, Reception and admin offices, Logistic Centre and a Multi-purpose animal handling facility/Sheep shearing (See Appendix C for Facility Illustration). Phase 2 will trigger Activity 27, Listing Notice 1.

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
Example: <i>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.</i>	<i>A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river</i>

<p>NEMA GN R327 07 April 2017 27 The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purpose undertaken in accordance with maintenance management plan. are not yet weaned</p>	<p>The total development footprint of the proposed FPSU is expected to be 1700 square meters so it will exceed the clearing of more than 1000 square meters but less than 20 Hectares</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;
 - I the design or layout of the activity;
- (d) the technology to be used in the activity;
 - I the operational aspects of the activity; and
- (f) the option of not implementing the activity.

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

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

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

E) Site alternatives

Alternative 1 (preferred alternative)
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Description	Lat (DDMMSS)	Long (DDMMSS)
Sediba 35	29° 05'38.63"	26° 50'10.27"
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A		
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)
N/A		

In the case of linear activities:

Alternative:

Latitude (S):

Longitude I:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

N/A	

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

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

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Corner A	29° 1'11.10"S	26°56'47.58"E
Corner B	29° 1'13.23"S	26°56'48.12"E
Corner C	29° 1'14.19"S	26°56'48.92"E
Corner D	29° 1'14.04"S	26°56'54.93"E
Corner E	29° 1'9.72"S	26°56'55.12"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)

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Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
N/A
Alternative 2
Alternative 3

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

Alternative 1 (preferred alternative)		
N/A		
Alternative 2		
Alternative 3		

e) No-go alternative

The proposed FPSU development is preferred above the No-go option for reasons including that the land is earmarked for agricultural development, and therefore the FPSU development will contribute to the local economy in the short term (construction phase) and create a larger number of permanent employment opportunities in the longer term (operational phase).

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

- Alternative A1¹ (preferred activity alternative)
- Alternative A2 (if any)
- Alternative A3 (if any)

Size of the activity:

21600m ²
m ²
m ²

or, for linear activities:

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

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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)
Alternative A2 (if any)
Alternative A3 (if any)

Size of the site/servitude:

	m ²
	m ²
	m ²

4. SITE ACCESS

Does ready access to the site exist?

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

YES	NO
	m

Describe the type of access road planned:

The proposed project is located at Sediba Village that is approximately 35km from Thaba Nchu in the North Eastern direction. Thaba Nchu is a town which is approximately 60km east of Bloemfontein that falls under the Mangaung Metro Municipality. The study area is on a ridge and the access gate to the proposed site is from the eastern direction. The site terrain comprises a typical crest with a flat area on the north western part of the site boundary and steep slopes towards the south eastern area (See Appendix 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	NO	Please explain
The proposed development site is situated on a property zoned as agricultural. As such small to medium scale agriculture such as the proposed activity is permitted.			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
<p>The proposed development is in line with the PSDF since it promotes shortcomings and addresses issues as stated in the paragraphs below:</p> <p>On page 131 of the Free State SDF the following is stated that: The protection and appropriate use of high potential agricultural land is of critical importance for sustainable economic growth and food security. High potential agricultural land in close proximity to settlements are often subjected to non-agricultural development pressure, while negative social impacts associated with such settlements often have a significant detrimental impact on the production potential of such land. It is therefore imperative that the highest priority be given to the protection of high potential agricultural land and that measures be instituted to create and maintain circumstances conducive to sustainable agriculture.</p> <p>Agriculture is still one of the most labour-intensive goods-production sectors, with substantial employment linkages. Resources are not being used sensibly, which requires urgent attention because this sector is one of the few remaining goods producers with strong direct and indirect economic and employment links to the rural poor. Increasingly, South African agriculture faces technical and structural challenges that require improved sector management, including adequate funding of research, investment in skills and training, effective communication strategies and agricultural extension. However, there are also underlying structural and policy issues that need to be addressed in order for a regeneration of rural communities to take place. The industrialisation of agriculture and the country's unique ecosystems also demand that attention be paid to advances in ecological approaches to sustainable agriculture.</p>			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The activity is located in a village where small holder agriculture can be accommodated or coincide with the urban edge line.			

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<p>I 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>NO</p>	<p>Please explain</p>
<p>Mangaung Municipality has a goal to promote sustainable agriculture. According to the Mangaung Metropolitan Municipality Spatial Development Framework and the Draft Integrated Development Plan (2017) One of the strategic locations of economic growth is to identify and demarcate land suitable for peri-urban farming. The proposed development will take place on an agricultural land.</p>			
<p>(d) Approved Structure Plan of the Municipality</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>According to the Mangaung Metropolitan Municipality Spatial Development Framework and the Draft Integrated Development Plan (2017) One of the strategic locations of economic growth is to identify and demarcate land suitable for farming.</p>			
<p>I 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>NO</p>	<p>Please explain</p>
<p>The EMP will form part of this application and will be implemented throughout the construction and operational phases of the project. This document will ensure that existing environmental management priorities for the area are not compromised.</p>			
<p>(f) Any other Plans (e.g. Guide Plan)</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</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>NO</p>	<p>Please explain</p>
<p>The proposed area is currently zoned as agricultural. The activity is an agricultural activity, which falls in line with the SDF.</p>			
<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>NO</p>	<p>Please explain</p>
<p>The proposed development addresses poverty within the local community through the generation of employment opportunities, as well as food security and nutrition by linking farmers with markets. The activity will result in job creation, both permanent and temporary</p>			

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<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>NO</p>	<p>Please explain</p>
<p>Efficient municipal services are available for the development.</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>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>This development is provided for in the infrastructure planning of the municipality.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The agricultural sector in South Africa plays a valuable role in ensuring the sustainable supply of food to our growing population and represents one of the main sources of revenue. As such the project plays its part in addressing issues of national concern in terms of sustainable agriculture. The activity will result in job creation, both permanent and temporary and will also aid in addressing food security.</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>NO</p>	<p>Please explain</p>
<p>The proposed area is currently zoned as agricultural. The activity is an agricultural activity, which falls in line with the SDF.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>The proposed FPSU will be an agricultural development within an area zoned as agricultural. The surrounding land use is mainly small-scale agriculture and the zoning of the area provides for agriculture; therefore, the proposed activity is in line with the land use zoning.</p>			

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10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
<p>The negative impacts identified during the impact assessment as well as those raised by the I&AP's will be addressed by implementing the mitigation measures contained in this report, which will in turn eliminate the majority of negative impacts. The positive impacts associated with the proposed land use will not only be of great benefit for the local community in terms of employment opportunities, but will also aid in addressing issues of national concern in terms of sustainable agriculture.</p>			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
<p>The proposed development will set a precedent for similar activities in the area and aid in the creation of jobs in the area as well as the continual growth of sustainable and suitable farming as identified as one of the strategic locations of economic growth by Mangaung Metropolitan Municipality Spatial Development Framework and the Draft Integrated Development Plan (2017).</p>			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
<p>After addressing all issues raised by the I&AP's, impacts identified during the impact assessment and implementing all the proposed mitigations, no rights of the surrounding landowners nor the surrounding environment will be negatively affected, provided that the applicant adheres to the proposed mitigations, recommendations and conditions of this report and the EMP.</p>			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
<p>The activity is located at the outer boundary within which urban expansion and small holder agriculture can be accommodated or coincide with the urban edge line.</p>			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
<p>No. 11: Agri-Logistics and Rural Infrastructure</p>			
15. What will the benefits be to society in general and to the local communities?	Please explain		
<p>Food security and the lack of knowledge are two of the main concerns under the local farmer and general communities of the Free State Province. The FPSU provide essential and efficient farmer support services and training to developing farmers in the Mangaung local area. These support and training services will focus on the agricultural commodities and input requirements identified in the farmer needs assessment. The FPSU will also incorporate private sector businesses, forums, union, and other stakeholders to assist with training and the provision of support services.</p>			

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16. Any other need and desirability considerations related to the proposed activity?	Please explain
<p>Food security is one of the main concerns in the local farming sector and general communities of the Free State Province. The facility supplies job opportunities as well as the opportunity of skills development and transfer to local community and additional work for contractors in the area.</p>	
17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>Agriculture has the potential to create close to 1million new jobs by 2030, a significant contribution to the overall employment target. Therefore, the project fits into the National Development Plan. South Africa has strategies to achieve this by developing strategies that give new entrants access to product value chains and support from better-resourced players</p>	

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

Section 23 requires the following general objectives:

(2) The general objective of integrated environmental management is to—

- a. Promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment;
- b. Identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;
- c. Ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- d. Ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- e. Ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and
- f. Identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.

These are achieved as follows:

- a) Decision making based on the findings of the BAR process
- b) Impacts have been identified, predicted and evaluated in terms of environmental, socio-economic and cultural heritage environment. The risks, consequences and alternatives and options for mitigation have been evaluated.
- c) This BAR process and the EMP ensure that the effects of the activities on the environment receive adequate consideration before actions are taken in connection with them.
- d) There will have been adequate and appropriate opportunity for public participation that will lead to the decision being taken.
- e) Environmental attributes have been considered in management and decision making.
- f) The modes best suited to environmental management for this activity have been followed and recommended.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

NEMA Section 2 requires:

(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

This has been achieved as follows:

The environmental management relating to the proposed project by the construction of the proposed layer houses has been set up in such a way as to place the needs of people at the forefront of its concern while addressing the environmental issues concerning the establishment of the facility. The facility has been designed to allow for addition of modules utilizing the same infrastructure which allows for true sustainable management.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act (Act 107 of 1998)	The proposed FPSU is a listed activity requiring environmental authorisation in terms of the Environmental Impact Assessment Regulations, 2017 promulgated under sections 20 and 44 of the National Environmental Management Act, 1998 (Act No.107 of 1998). The applicable activities are in terms of Listing Notice 1 (GNR 327) of 2017, which trigger a Basic Assessment application process.	National and provincial	April 2017
Environmental Impact Assessment Regulations, 2014	Competent Authority	DESTEA	2014
National Development Plan		National Government	2012
Constitution of the	of special relevance in terms	Constitution of the	1996

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Republic of South Africa (1996)	of environment is section 24	Republic of South Africa	
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993):	The purpose of this Act is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with, the activities of persons at work. The proposed development will therefore be subject to this Act during the construction and operational Application for Environmental Authorisation.	Department of Labour	1993

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

E) Solid waste management

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

YES	NO
10m ³	

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

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

This solid construction waste will be separated into non-recyclables and recyclables and stored separately for collection. Non-recyclables will be collected and stored in fenced areas at a holding facility at the construction camps established. The construction waste will be removed from site by the appointed contractor to a registered waste disposal site.

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

Waste from the site will be collected by waste trucks on a weekly basis and disposed of at the nearest registered landfill site

Will the activity produce solid waste during its operational phase?

YES	NO
20m ³	

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

How will the solid waste be² disposed of (describe)?

It will be disposed of into the Municipal system.

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

Regional landfill site in the Mangaung Metropolitan Municipality

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? **YES** **NO**

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

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

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

b) Liquid effluent

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

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

Will the activity produce any effluent that will be treated and/or disposed of on site? **YES** **NO**

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

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

If YES, provide the particulars of the facility:

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

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

N/A.

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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?

YES	NO
-----	----

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

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

The air emissions generated by the FPSU facility do not require an Air Emissions License as per NEM:AQA (Act No 39 of 2004). The relevant impacts of these odours have been assessed in the Impact Assessment Section (Section D).

d) Waste permit

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

YES	NO
-----	----

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

e) Generation of noise

Will the activity generate noise?

YES	NO
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 noise generated by the FPSU facility will not exceed thresholds. The relevant impact for the noise generated has been assessed in the Impact Assessment Section (Section D).

13. WATER USE

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

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

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

N/A	
-----	--

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

YES	NO
-----	----

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

14. ENERGY EFFICIENCY

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

Most of the equipment and machinery used during construction is self-powered and does not require electricity

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

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

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

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

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

3. Has a specialist been consulted to assist with the completion of this section? YES NO
If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

Property description/physical address:

Province	Free State
District Municipality	Mangaung Metropolitan Municipality
Local Municipality	Mangaung Metropolitan Municipality
Ward Number(s)	Ward 41
Farm name and number	Farm Seliba 35
Portion number	Remaining Extent of Farm Seliba 35
SG Code	F032000000000350000

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

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

Agricultural

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

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

BASIC ASSESSMENT REPORT

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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 S2 (if any):

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

2. 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 type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the

BASIC ASSESSMENT REPORT

completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

4. GROUND COVER

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

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

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

5. SURFACE WATER

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

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

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

6. LAND USE CHARACTER OF SURROUNDING AREA

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

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

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

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

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)	YES	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO

BASIC ASSESSMENT REPORT

Buffer area of the SKA?

YES NO

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

7. CULTURAL/HISTORICAL FEATURES

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

YES NO

Uncertain

The proposed footprint is located on previously developed land surrounded by the remains of old rectangular kraals most likely linked to historical residential occupation as indicated in the Heritage Impact Assessment (Appendix D). However these structures will not be affected by the proposed development

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

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

YES NO

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

YES NO

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

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

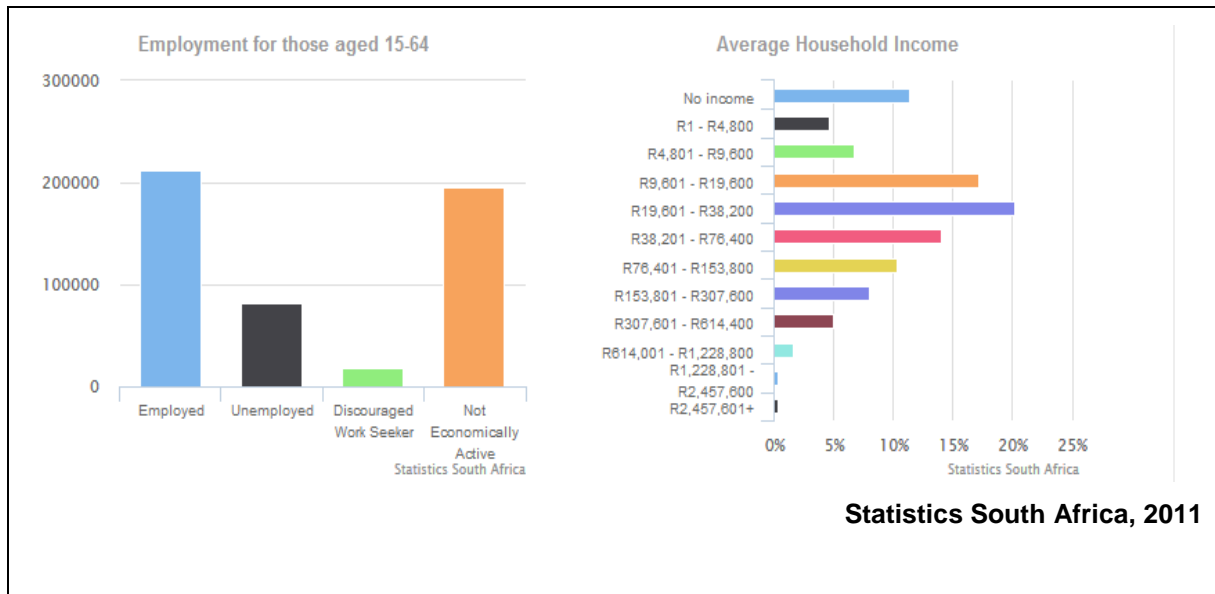
Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Mangaung Metro Municipality has a population of 747 431 with the unemployment rate estimated at 27.7%. Of the 292 971 economically active (employed or unemployed but looking for work) people in Mangaung, 27.7% are unemployed. 37.2% of the 150 128 economically active youth (15 – 34 years) in the area are unemployed

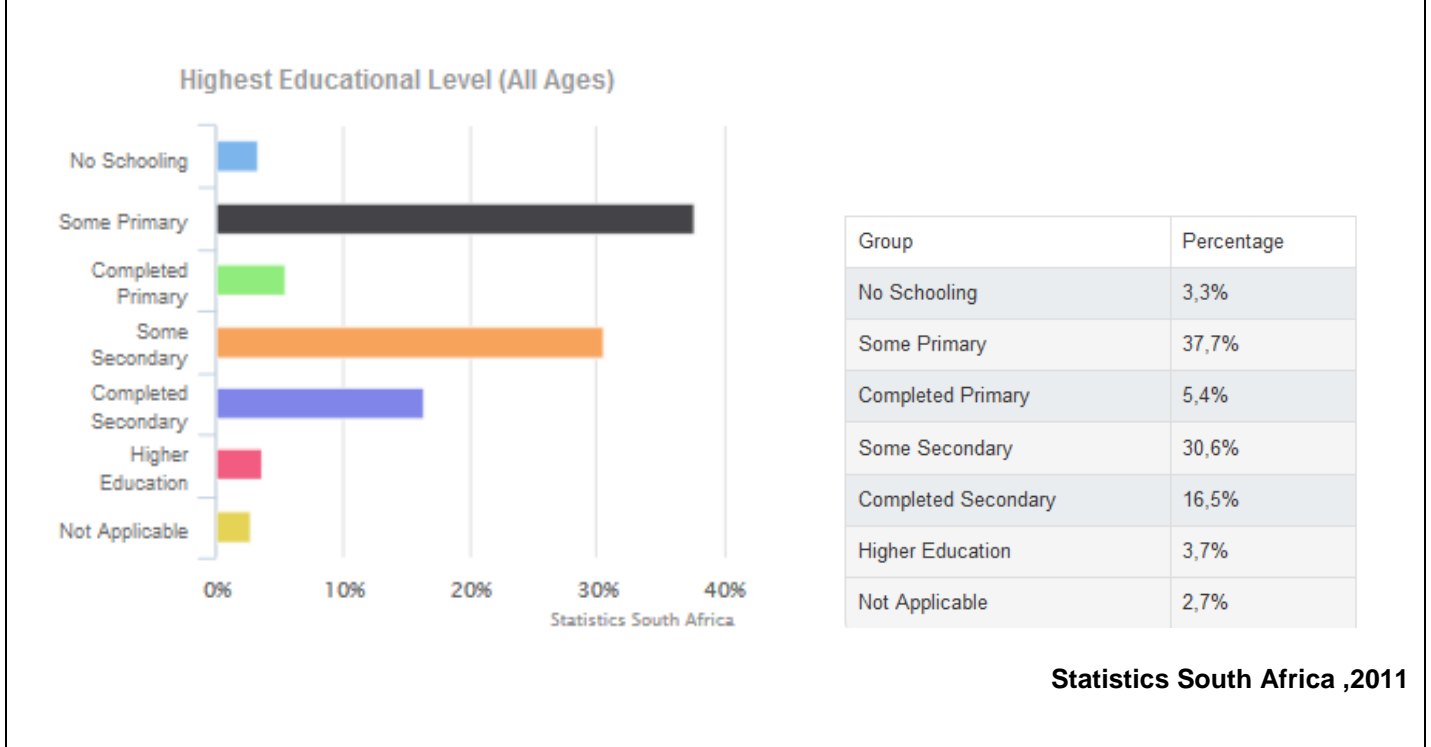
BASIC ASSESSMENT REPORT

Economic profile of local municipality:



Level of education:

Of the a population of 747 431 the level of education is as follows:



b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	N/A
What is the expected yearly income that will be generated by or as a result of the activity?	N/A
Will the activity contribute to service infrastructure?	YES NO
Is the activity a public amenity?	YES NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	It stated that commercial agriculture has the potential to create 250 000 direct jobs and a further 130 000 indirect jobs. This particular FPSU at Sediba contributes to this goal of the National Development Plan
What is the expected value of the employment opportunities during the development and construction phase?	Building contractors will have to be consulted in this regard.
What percentage of this will accrue to previously disadvantaged individuals?	Building contractors will have to be consulted in this regard.
How many permanent new employment opportunities will be created during the operational phase of the activity?	The Developer of the FPSU will consult of how many opportunities will be available once it is operational.
What is the expected current value of the employment opportunities during the first 10 years?	The Developer will be consulted in this regard.
What percentage of this will accrue to previously disadvantaged individuals?	100%

9. BIODIVERSITY

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

BASIC ASSESSMENT 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
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	N/A
				N/A
				N/A

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	0%	N/A
Near Natural (includes areas with low to moderate level of alien invasive plants)	20%	N/A
Degraded (includes areas heavily invaded by alien plants)	70%	Trampling has occurred on site as a result of new developments.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	10%	The site has transformed as there is infrastructure that is developed.

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems		
Ecosystem threat status as per the National Environmental Management:	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)	Estuary	Coastline
	Endangered			
	Vulnerable			
	Least			

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Terrestrial Ecosystems		Aquatic Ecosystems						
Biodiversity Act (Act No. 10 of 2004)	Threatened	YES	NO	UNSURE	YES	NO	YES	NO

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

The vegetation within the area is considered as Central Free State Grassland (Gh 6). The vegetation type, Central Free State Grassland (Gh 6), is considered to be of Least Concern. The vegetation type is not currently subjected to any pronounced development pressures. A significant portion of the vegetation type has been transformed for cultivation. The area within which the vegetation type is situated does not contain any large urban areas which are responsible for the transformation of vegetation.

As a consequence, the vegetation type is not considered as a Threatened Ecosystem.

The vegetation on the area is totally depleted and removed by means of overgrazing. Thus, the vegetation located on the development site cannot be regarded as part of the Central Free State Grassland.

The vegetation type in the area contains significant watercourses as well as several significant wetlands. These must all be considered as sensitive and no-go areas. The vegetation type contains high amounts of wetlands scattered throughout the district. These are considered highly sensitive and must be regarded as no-go areas. (See Appendix 2)

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Express	
Date published	8 July 2020	
Site notice position	Latitude	Longitude
	29° 1'12.12"S	26°56'49.70"E
	29° 1'27.96"S	26°56'31.84"E
	29° 3'6.87"S	26°56'54.08"E
Date placed	03 July 2020	

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

2. DETERMINATION OF APPROPRIATE MEASURES

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

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

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Please refer to the Public Participation Report (Appendix E)		

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

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

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No comment has been received from I&APs.	N/A

4. COMMENTS AND RESPONSE REPORT

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

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	e-mail	Postal address
Department of Agriculture and Rural Development	Mr Thabethe	0518618509	pa.hodagric@fs.agric.za schultzjg@gmail.com	Gielie Joubert St Glen, BFN, 9360
Department of Water & Sanitation	Mr Vernon Blair	0514059000 0828073552	blairV@dws.gov.za	Bloem Plaza 2nd Floor c/o Charlotte Maxeke & East Burger Streets Private Bag 528 Bloemfontein 9300
Free State Department of Public Works and Infrastructure	Ms G Brown	0514923909	hodoffice@fsworks.gov.za	Cnr Markgraaf & St Andrew's Streets Bloemfontein 9301
Department of Heritage (Department of sports, arts, culture and recreation)	Ms. Ntando Mbatha	0514104750 / 4738/4829	loudine.philip@nasmus.co.za	Private Bag X 20606 Bloemfontein 9300
Mangaung Metropolitan Municipality Manager Environmental	Mr. Mpolokeng Kolobe	0514058577 0514058429	mpolokeng.kolobe@mangaung.co.za vivian.minnaar@mangaung.co.za	Room 1017, 10th Floor, Bram Fischer's Building, Bloemfontein, 9301

BASIC ASSESSMENT REPORT

Assessment				
Executive Mayor	Cllr. Oly Mlamleli	0514058494		1st Floor , Room 101 Bram Fischer's Building, Mangaung Metropolitan Municipality, BFN, 9301

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

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

6. CONSULTATION WITH OTHER STAKEHOLDERS

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

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

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

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

SECTION D: IMPACT ASSESSMENT

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

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

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

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Flora and Fauna			
Clearance of Vegetation	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> • Only vegetation within the vicinity of the FPSU can be removed. • Keep vegetation removal to a minimum and only what is required. • Minimal to no vegetation removal around or within wetlands, watercourses or protected areas. • The construction area must be demarcated to prevent movement in private property and adjacent natural veld. • Topsoil must be stockpiled and kept clean from alien vegetation. This topsoil must be used for rehabilitation purposes. • Contain the natural environment and ensure the Environmental Management Plan is
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p>adhered to.</p> <ul style="list-style-type: none"> No removal of indigenous vegetation or protected species.
Land transformation – Veldfire	Direct impacts:	LOW	<ul style="list-style-type: none"> The Developer will ensure that firefighting equipment is available onsite in the event that an accidental fire should break out. Construction workers will not be allowed to make fires on the site. Construction activities that generate heat or an open flame should be monitored and appropriate measure taken to prevent run away veld fires. A Fire Management Plan must be present on site The local fire station, landowner and neighbouring landowners must be alerted about potential of causing a fire.
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	
Unauthorized vehicle movement	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> Vehicles must stay to existing gravel roads during any maintenance activities. Vehicle drives must be informed where it is safe to drive.
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	
Hunting and gathering of Fauna	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> No hunting or trapping of animals to be permitted No fauna or flora should be eradicated unnecessarily and should be discussed during the monthly toolbox talks. A specialist must be consulted to identify sensitive species, highly susceptible to disturbances caused by construction. If species like this are found
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			on the construction footprint, a search-and-relocate must be implemented for them.
Loss of habitat and species diversity	Direct impacts:	MODERATE	<ul style="list-style-type: none"> • Limit the amount of construction sites that are worked on simultaneously. • Proper rehabilitation of construction sites with special attention given to wetlands and watercourses. • Consult an ecologist with regards to sustainable rehabilitation of the disturbed areas. • Construction footprint to be demarcated as per the construction phase conditions outlined • Construction vehicles will be restricted to travel only on designated roadways to limit the ecological footprint of the proposed development • Rehabilitation measures must be implemented in areas where the soil surface was disturbed
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW-MODERATE	
Heritage			
Artefacts and Fossils	Direct impacts:	MODERATE	<ul style="list-style-type: none"> • Upon finding any archaeological or historical material all work at the affected area must cease • The area will be demarcated in order to prevent any further work there until an investigation has been completed • An archaeologist will be contacted immediately to provide advice on the matter • Should it be a minor issue, the archaeologist will decide on future action, which could include adapting the HIA or not. Depending on the nature of the find, it may include a site
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	

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Activity	Impact summary	Significance	Proposed mitigation
			visit <ul style="list-style-type: none"> • SAHRA's APM Unit will be notified • If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist.
Water Resources			
Surface and ground water Quality	Direct impacts:	MODERATE	<ul style="list-style-type: none"> • Surface contamination of the soil through hazardous materials should be cleaned up immediately and disposed of properly. • All vehicles must be fitted with a drip tray and leaking vehicles must be repaired off site at a designated workshop area. • It is recommended to use alternative substances to those that are hazardous especially near sensitive areas such as watercourses and wetlands. • Any maintenance taking place in the FPSU should have a spillage treatment kit with them at all times. • All spillages must be cleaned before leaving a site. • All animal waste is to be removed and disposed to a registered Landfill site
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW-MODERATE	
Hydrological – Storm water System and	Direct impacts:	MODERATE-HIGH	<ul style="list-style-type: none"> • Storm water run-off generated within the development should be

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Activity	Impact summary	Significance	Proposed mitigation
water supply	Indirect impacts:	LOW-MODERATE	accommodated through formal system. <ul style="list-style-type: none"> If groundwater resources are to be abstracted in the future water meters will be installed at every abstraction point and will be sent to DWS on a monthly basis. Storm water system should be implemented.
	Cumulative impacts:	LOW-MODERATE	
Aesthetics			
Construction of the FPSU	Direct impacts:	MODERTARE	<ul style="list-style-type: none"> It is recommended that the number of construction sites be kept to a minimum to lower the overall aesthetic impact. Once an area is completed it is recommended that the area be rehabilitated before moving on to the next section through levelling off the ground and re-vegetating the excavated areas. Trenches may not be kept open and unattended for longer than 30 days. Maintenance of the developed FPSU site should occur as quickly as possible to minimize the overall aesthetics value created by open trenches, soil heaps, construction signs and still standing vehicles
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	
Location of FPSU	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> Avoid excessive clearance of vegetation and disturbance to the area. It is recommended that after the construction phase and before the operational phase, that indigenous trees be planted around the disturbed and cleared area to recover some aesthetic value for the area as well as blending the FPSU into the environment.
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> Monitoring the occurrence of rodents and manage by means of traps Regularly inspections by the owner as well as state veterinary services Proper disposal of condemned animal mortalities to prevent distribution of diseases The premises must be fenced and provided with a gate to control access of people and animals
Noise and Air Quality			
Generation of noise	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> No loud music at any construction sites. Vehicles must be maintained in such a manner as to not cause excessive noise when operating them. Construction should take place between 8:00 and 17:00. The speed limit will be 40km/h on all roads running through and accessing the study area Equipment/ machinery to be used must comply with manufacturers specifications acceptable noise levels Maintain a complaints and grievance register and act promptly to complaints regarding noise. Ensure that the FPSU is Adequately constructed to buffer noise coming from the FPSU facility. Also, maintain the FPSU in such a manner that it does not cause excessive noise
	Indirect impacts:	LOW	
	Cumulative impacts:	LOW	
Air quality	Direct impacts:	LOW-MODERATE	<ul style="list-style-type: none"> Confine vehicle movements on unpaved roads to demarcated areas only Ensure that site drainage

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Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts:	LOW	carries spillage of clay or coal fines away from traffic movement zones <ul style="list-style-type: none"> • Spraying of clay or coal stockpiles if wind erosion is observed. • Set up water sprayers along haul roads to dampen dust and minimise dust loading to surrounding vegetation. • Speed control for all roads to limit dust generation. • If animal waste is immediately removed from the facilities no unpleasant smells will occur. • The handling removal and disposal for animal waste products must be in terms of legal requirements and as per guidance through an approved operational Environmental Management Plan
	Cumulative impacts:	LOW	
No-go option			
Activity will not proceed and the environment is left as it is. The impact is assessed from the need of this project to continue as part of ensuring the sustainability of food supply to our growing population and will result in job creation, both permanent and temporary	Direct impacts:	HIGH	If this project has been identified as a no-go option, job opportunities will be lost to the local communities. This project will also stimulate the local economy. Furthermore, if this project is rejected there will be no larger number of permanent employment opportunities in the longer term in the area of Thaba Nchu and Sediba.
	Indirect impacts:	MODERATE	
	Cumulative impacts:	HIGH	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
and will also aid in addressing food security			

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

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment 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)

In terms of the potential impacts resulting from the proposed preferred development during the *planning, design construction and operational phase*, the most significant impacts are those related to land transformation i.e. impact on fauna, loss of floral species; loss of habitat, visual impact associated with the clearing of vegetation; the construction of roads; increased levels of dust; and socio-economic impacts associated with a potential increase in loitering and petty crime associated with casual labour.

The primary findings of the above processes were that the proposed development of the FPSU would probably result in:

- No negative environmental impacts of high significance;
- Potential positive impacts due to increased economic activity, employment and capacity building.

Other less significant impacts include increased noise and traffic levels due to construction vehicles.

All of these impacts can be adequately addressed by the implementation of suitable mitigation measures.

In terms of potential impacts resulting from the proposed preferred development during the *operational phase*, the most significant impacts are those related to land transformation and increase traffic generation and waste generation by the FPSU.

Major positive impacts during the operational phase is socio-economic, educational and food security. All of these will enhance the livelihoods of the local community.

Other less significant impacts include increased domestic waste.

All of these impacts can be adequately addressed by the implementation of suitable mitigation measures.

The preferred layout option is selected above any other alternative layout options if those consider higher dwelling density, this will only increase water demand and sewage removal during the operational Phase.

In the opinion of Environmental Management Group, 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 study area, thus that should result in refusal of environmental authorization for this application. Therefore, it is recommended that this application receives favourable consideration, given that the overall social impact of this proposed activity will be of a positive nature.

Alternative B

Alternative C

No-go alternative (compulsory)

This option assumes that a conservative approach would ensure that the environment is not impacted upon any more than is currently the case. It is important to state that this assessment is informed by the current condition of the area. Should the Competent Authority decline the application, the 'No-Go' option will be followed and the status quo of the site will remain in the same degraded and un-preferred operational state.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES	NO
-----	----

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

--

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

N/A

Is an EMPr attached?

YES	NO
-----	----

The EMPr must be attached as Appendix G.

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

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

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

NAME OF EAP

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)

Appendix D (i): Phase 1 Heritage Impact Assessment

Appendix E: Public Participation Report

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

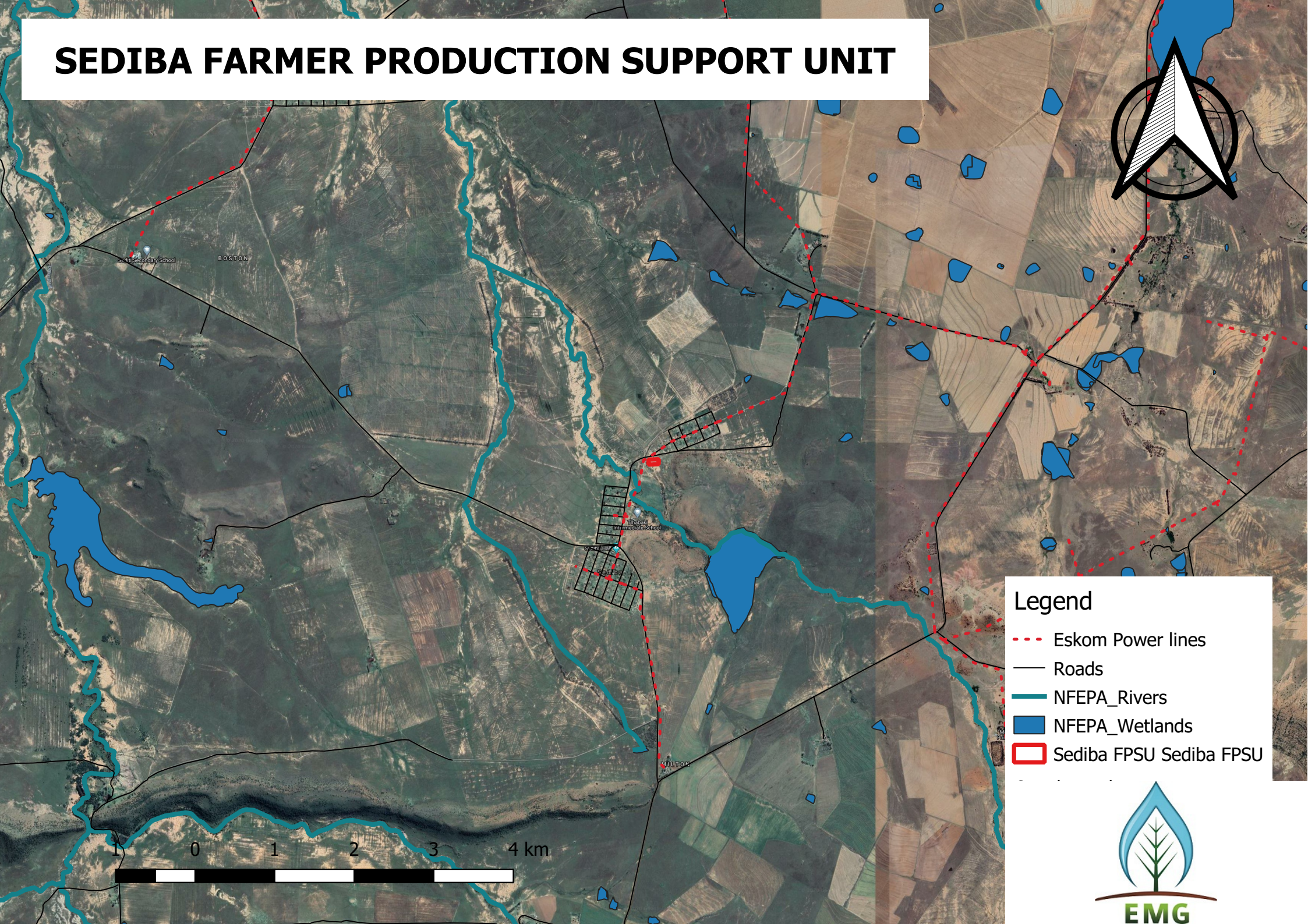
Appendix J: Title Deeds

Appendix K: Landowner's consent letter

Appendix L: Enquiry response

Appendix A: Maps

SEDIBA FARMER PRODUCTION SUPPORT UNIT



Legend

- - - Eskom Power lines
- Roads
- NFEPA_Rivers
- NFEPA_Wetlands
- Sediba FPSU



Appendix B: Photographs





Appendix C: Facility illustration(s)

LEGEND

FACILITY NAME	FACILITY SIZE m2	PROPOSED LAND USE	PHASE	PAVEMENT AREA	PARKING NO
1 SECURITY OFFICES	27		2		
2 RECEPTION AND ADMIN OFFICES	440		2		
3 OFFICE AND STORAGE SHED	600		1		
4 LOGISTICS CENTER	350		2		
5 MULTIPURPOSE ANIMAL HANDLING FACILITY/ SHEEP SHEARING	300		2		

PHASE 1 PAVED ROAD		PHASE 2 PAVED ROAD	
FOOT PATHWAY		EXISTING IRRIGATION CONCRETE CANAL	
POTABLE WATER, INTERNAL		EXISTING GRAVEL ROAD	



NOTES:

REFERENCE DOCUMENTS

No.	Date	Revision Description
0	07-09-2017	ISSUED FOR INFORMATION

REVISION SCHEDULE

PROJECT

CLIENT



23 Second Avenue
WESTDENE
Bloemfontein, South Africa
9301
Website: //www.smec.com
Tel. (051) 411-8700
Fax (051) 447-6000

ENGINEER	PR ENG no.	DATE

CLIENT	DATE

DESIGNED	DRAWN	CHECKED
E DE WAAL	E MAPHANE	S MARAIS

PROJECT
**SEDIBA
FPSU**

DRAWING DESCRIPTION
**CONCEPT
LAYOUT PLAN**

DATE	SCALE	SIZE
16-10-2017	1:1000	A3

DRAWING NUMBER

PROJ No - PHASE - DISCIPLINE - STAGE - DOC - SERV - LEV - SEQ No - (SHEET)	REV
BCM62-2017	0

LEGEND

FACILITY NAME	FACILITY SIZE m2	PROPOSED LAND USE	PHASE	PAVEMENT AREA	PARKING NO
1 SECURITY OFFICES	27		2		
2 RECEPTION AND ADMIN OFFICES	440		2		
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PHASE 1 PAVED ROAD		PHASE 2 PAVED ROAD	
FOOT PATHWAY		EXISTING IRRIGATION CONCRETE CANAL	
POTABLE WATER, INTERNAL		EXISTING GRAVEL ROAD	



NOTES:

REFERENCE DOCUMENTS

No.	Date	Revision Description
0	07-09-2017	ISSUED FOR INFORMATION

REVISION SCHEDULE

PROJECT

CLIENT

DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM

Member of the Surbana Jurong Group

23 Second Avenue
WESTDENE
Bloemfontein, South Africa
9301
Website: //www.smec.com
Tel. (051) 411-8700
Fax (051) 447-6000

ENGINEER	PR ENG no.	DATE
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CLIENT	DATE
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DESIGNED	DRAWN	CHECKED
E DE WAAL	W MBATHA	S MARAIS

PROJECT	SEDIBA FPSU
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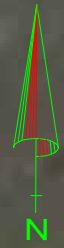
DRAWING DESCRIPTION

CONCEPT LAYOUT PLAN

DATE	SCALE	SIZE
16-10-2017	1:10,000	A3

DRAWING NUMBER

PROJ No - PHASE - DISCIPLINE - STAGE - DOC - SERV - LEV - SEQ No - (SHEET) REV	BCM62-2017	0
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Appendix D: Specialist reports

Appendix D (i): Phase 1 Heritage Impact Assessment

**Phase 1 Heritage Impact Assessment of a proposed new
FPSU on the farm Sediba 35 near Excelsior, FS Province.**

Report prepared by
Paleo Field Services
PO Box 38806
Langenhovenpark
Bloemfontein, 9330
02/08/2020

Summary

A Phase 1 Heritage Impact Assessment was carried out for the establishment of a FPSU facility covering \pm 3ha on the farm Sediba 35, which is located about 16 km southwest of Excelsior in the Free State Province. The residual topsoils (Quaternary sediments) have been completely degraded as a result of prior agricultural, residential and industrial activities. In accordance with the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) there is no above-ground evidence to suggest that historically significant building structures older than 60 years or material of cultural significance or archaeological sites will be affected within the demarcated area. The site is underlain by dolerite that is capped by superficial (Quaternary) deposits of low to very low palaeontological sensitivity, the latter being that the impact area is not situated within or near pan, well-developed alluvial or spring deposits (considered to be potentially fossiliferous in the region). The proposed footprint is located on degraded terrain. Potential impact on *in situ* Stone Age archaeological material, graves, rock engravings, prehistoric structures or historically significant building structures older than 60 years within the impact footprint is considered unlikely. The terrain in general is regarded as of low archaeological significance and is assigned a rating of Generally Protected C (GP.C). As far as the archaeological and palaeontological heritage is concerned, the proposed development may proceed with no additional heritage assessments necessary, provided that all industrial activities are restricted to within the boundaries of the development footprint.

Introduction

A Phase 1 Heritage Impact Assessment was carried out for the establishment of a FPSU on the farm Sediba 35, located about 15 km southwest of Excelsior in the Free State Province (**Fig. 1 & 2**). Planned development includes multiple animal handling areas and offices. The study is required in terms of Section 38 of the National Heritage Resources Act 25 of 1999 as a prerequisite for any development which will change the character of a site exceeding 5 000 m² in extent. The task involved identification and mapping of possible archaeological heritage within the proposed project area, an assessment of their significance, related impact by the proposed development and recommendations for mitigation where relevant.

Terms of Reference

- Identify and map possible archaeological sites and occurrences using available resources.
- Determine and assess the potential impacts of the proposed development on potential archaeological resources;
- Recommend mitigation measures to minimize potential impacts associated with the proposed development.

The heritage significance of the affected area was evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature. This was followed by a field assessment of the five poultry facility structures by means of a pedestrian survey. A Garmin Etrex Vista GPS hand model (set to the WGS 84 map datum) and a digital camera were used for recording purposes. Relevant archaeological information, aerial photographs and site records were consulted and integrated with data acquired during the on-site inspection. Site significance classification standards prescribed by SAHRA (2005) were used to indicate overall significance and mitigation procedures where relevant (Table 1).

Locality data

1 : 50 000 scale topographic map: 2926 BB Thaba Nchu

1 : 250 000 scale geological map 2926 Bloemfontein

General site coordinates: 29° 1'12.18"S 26°56'51.70"E

The geology of the region has been described by Theron (1963) and Johnson (2006). It is situated within the Beaufort Group (Karoo Supergroup), and is primarily represented by late Permian, Adelaide Subgroup sedimentary rocks, which are made up of alternating sandstone and mudstone layers. Dykes and sills of resistant Jurassic dolerites determine the relief in the region (**Fig. 3**).

The site is capped by younger, superficial deposits of Quaternary age consisting mainly of degraded topsoils of varying depth. The impact footprint will cover ± 3 ha of on previously developed land on the farm Sediba 35, located about 16 km southwest of Excelsior (**Fig. 4**). The affected area is situated next to a large dolerite koppie and is primarily represented by relatively low-relief terrain that has been severely degraded by previous development. Old topographic maps of the area indicate that the affected area has already been subjected to informal settlement by 1953 (**Fig. 5**).

Background

Palaeontology

The local palaeontological footprint is primarily represented by Late Permian Karoo vertebrate fauna and Late Cenozoic (Quaternary) macrofossils (Broom 1909 a, b; Kitching 1977; Churchill *et al* 2000; Rossouw 1999, 2000, 2006). The succession of Beaufort Group sedimentary rocks is subdivided into eight biostratigraphic units, called assemblage zones (Rubidge 1995) and the sedimentary strata underlying the affected area are assigned to the *Dicynodon* Assemblage Zone (AZ) (Kitching 1995) (**Fig. 6**). This biozone is characterized by the presence of a distinctive and fairly common dicynodont genus. Therapsids and other vertebrate fossils from this biozone are usually found as dispersed and isolated specimens in mudrock horizons, associated with an abundance of calcareous nodules. Plant fossils (*Dadoxylon*, *Glossopteris*) and trace fossils (arthropod trails, worm burrows) are also present. The sediments assigned to the *Dicynodon* AZ are associated with stream deposits consisting of floodplain mudstones and subordinate, lenticular channel sandstones. Several fossil localities have been recorded about 30 km east of the study area with the farm Chubani lying closest (see **Fig. 3**)

In more recent times the central interior and what is now the Free State Province, was once a vast and highly productive grassland ecosystem. Numerous mammal fossils stretching as far back as the Middle Pleistocene are regularly discovered in the Free State Province, especially in fluvial sediments along river courses like the nearby Modder River and the Renosterspruit. Quaternary palaeontological sites, often associated with Stone Age artefacts, are found eroding out of Pleistocene alluvial terraces and dongas along the Modder River and its tributaries near Maselspoort and Mockesdam and further east along the Honingspruit near Sannaspos. Fossils discovered at various fossil sites along the Modder River and its tributaries revealed the existence of a number of open grassland adapted herbivores (*Equus capensis*, *Megalotragus priscus*, *Pelorovis antiquus*, *Antidorcas bondi* and *Equus lylei*). The abundance of these different sized grazers in the Free State is a reflection of the availability of abundant seasonal grassland and offers strong evidence for a stable and sustainable grassland ecosystem in the central interior of South Africa thousands of years ago.

Stone Age heritage

The archaeological footprint in the region is primarily represented by Stone Age surface occurrences, structural remnants dating back to the Anglo Boer War and its aftermath, graveyards and other historical structures older dating more than 60 years ago. The Stone Age archaeological record of Modder River catchment east of Bloemfontein spans back to the early Middle Stone Age. Prehistoric archaeological remains previously recorded in the region include stone tools and mammal fossil remains from sealed and or exposed contexts. Along much of the course of Modder River and its tributaries between Sannaspos and Bloemfontein south of the study area, alluvial deposits contain numerous occurrences of *in situ* Middle and Later Stone Age material eroding out of the overbank sediments where they are often found in association large mammal fossil remains (Churchill *et al.* 2000; Rossouw 1999, 2000, 2006). The incidence of surface scatters usually decreases away from localized areas such as alluvial contexts and dolerite-shale contact zones when stone tools largely occur as contextually derived individual finds in the open veld. Stone tools are mostly made of hornfels, a fine-grained isotropic rock found in the hot-contact zone between the dolerites and shales in the area.

Historical heritage

During the 19th century the Thaba Nchu area was occupied by the Barolong under the chieftainship of Moroka until it was incorporated into the Free State Republic in 1880. The history is in part represented by numerous circular stone-walled kraals found in the area between Thaba Nchu and Excelsior (**Fig. 7 & 8**). The region has also witnessed several skirmishes between British and Boer forces during the Anglo-Boer War. Following the capture of Bloemfontein by British forces during the Anglo-Boer War, military movements occurred well towards the east of Bloemfontein around Thaba Nchu.

Site Assessment

The site is underlain by dolerite that is capped by superficial (Quaternary) deposits of low to very low palaeontological sensitivity, the latter being that the impact area is not situated within or near pan, well-developed alluvial or spring deposits (considered to be potentially fossiliferous in the region).

The proposed footprint is located on previously developed land surrounded by the remains of old rectangular kraals most likely linked to historical residential occupation as indicated in Figure 5 (**Fig. 9**). These structures will not be affected by the proposed development.

Impact Statement and Recommendations

The site is situated on palaeontologically insignificant dolerites. Residual topsoils (Quaternary sediments) have been completely degraded as a result of prior agricultural and industrial activities.

- As far as the palaeontological heritage is concerned, the proposed development may proceed with no additional heritage assessments necessary, provided that all industrial activities are restricted to within the boundaries of the development footprint.

In accordance with the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999), there is no above-ground evidence to suggest that building structures older than 60 years or material of cultural significance or archaeological sites will be affected within the demarcated area.

Potential impact on *in situ* Stone Age archaeological material, graves, rock engravings, prehistoric structures within the impact footprint is considered unlikely.

- The terrain in general is regarded as of low archaeological significance and is assigned a rating of Generally Protected C (GP.C) (**Table 1**). As far as the archaeological heritage is concerned, the proposed development may proceed with no additional heritage assessments necessary, provided that all industrial activities are restricted to within the boundaries of the development footprint.

References

- Churchill, S.E., Brink, J.S., Berger, L.R. Hutchison, R.A., Rossouw L., *et. al.* 2000. Erfkroon: a new Florisian fossil locality from fluvial contexts in the western Free State, South Africa. *South.African Journal of Science* 96: 161 – 163.
- Dreyer, J. 2001. Thomas Arbousset and Francois Daumas in the Free State: tracing the exploratory tour of 1836. *Southern African Humanities* 13: 61–96
- Eloff, C. C. 1980. *Oos-Vrystaatse grensgodel*. Pretoria: HSRC
- Johnson, M.R. *et. al.* 2006. Sedimentary Rocks of the Karoo Supergroup. **In:** M.R. Johnson, *et. al.* (eds). *The Geology of South Africa*. Geological Society of South Africa.
- Lye, W. F. 1967. The Difaqane: the Mfecane in the southern Sotho area 1822–1824. *Journal of African History* 8 (1): 107–131.
- Milne, J.W. 1900. Diary of No 8080 Private JW Milne, 1st Service Company Volunteers, Gordon Highlanders (1900) during the Boer War.
- Rossouw, L. 1999. Palaeontological and archaeological survey of the Riet River, Modder River and certain sections of the Gariep River Unpublished Report, Palaeo-Anthropological Research Group. University of the Witwatersrand.
- Rossouw, L. 2000. Preliminary species list of Late Pleistocene / Holocene fossil vertebrate remains from erosional gullies along the Modder River NE of Sannaspos, Free State Province. Unpublished Report , Palaeo- Anthropological Research Group, University of the Witwatersrand.
- Rossouw, L. 2006. Florisian mammal fossils from erosional gullies along the Modder River at Mitasrust farm, central Free State, South Africa. *Navorsing van die Nasionale Museum* 22(6): 145-162.

Theron, J.C. 1963. Geology of Bloemfontein area. Dept. of Mines. Government Printer, Pretoria.

DECLARATION OF INDEPENDENCE

I, Lloyd Rossouw, declare that I act as an independent specialist consultant. I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference and have no interest in secondary or downstream developments as a result of the authorization of this project.

Yours truly,

Tables and Figures

Table1. Field rating categories as prescribed by SAHRA

Field Rating	Grade	Significance	Mitigation
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction



Figure 1. Aerial view of the area around the site (red polygon).



Figure 2. Aerial view of the proposed footprint.

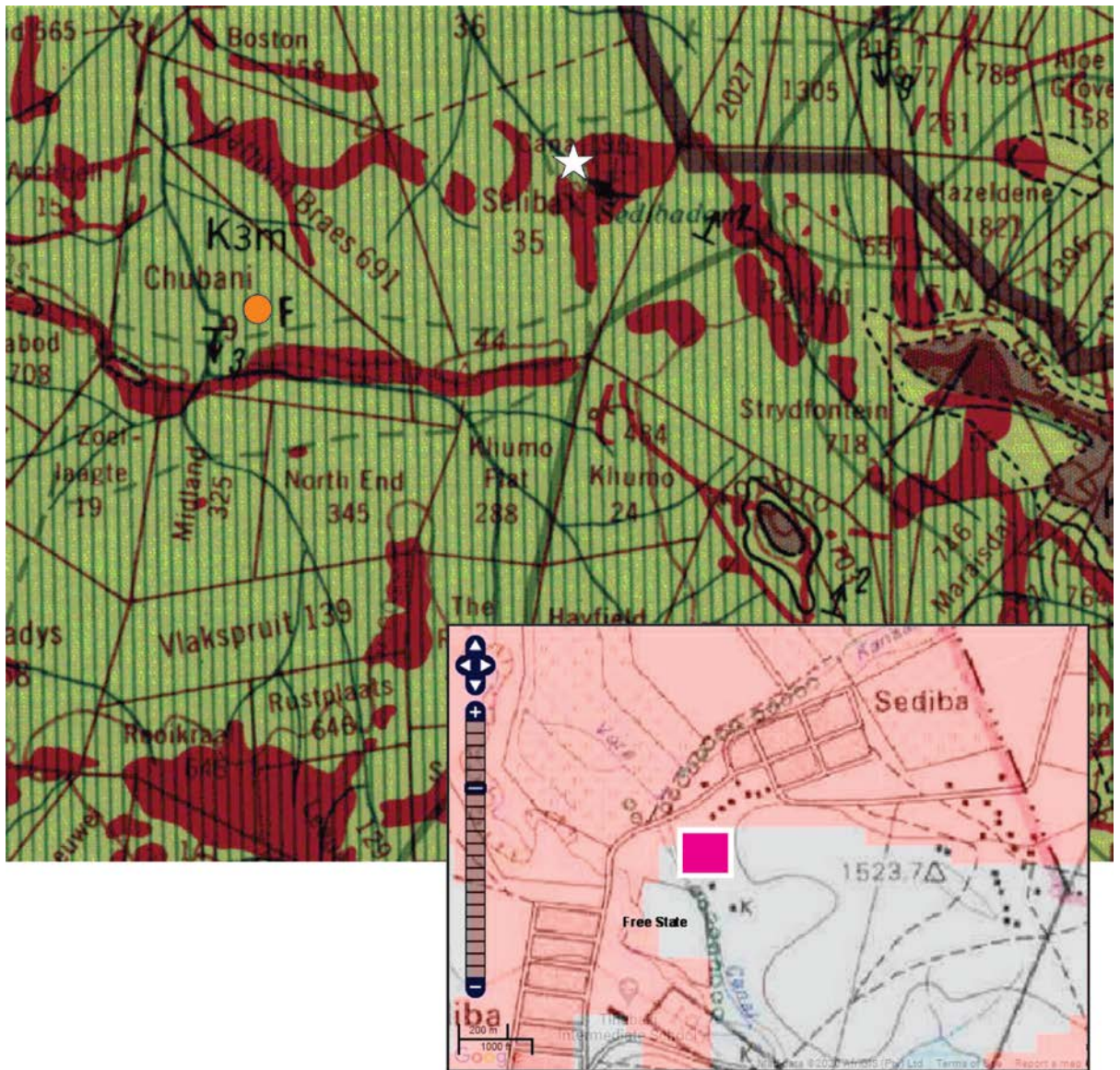


Figure 3. Portion of the 1:250 000 scale geological map Bloemfontein 2926. The site (white star) is situated within the Beaufort Group, Adelaide Subgroup (Karoo Supergroup, green areas) and on top of weather-resistant Jurassic dolerites (red areas and grey areas on SAHRIS palaeosensitivity map insert). Several therapsid localities are located on the farm Cubani situated east to the west (orange circle).



Figure 4. General view of the site.

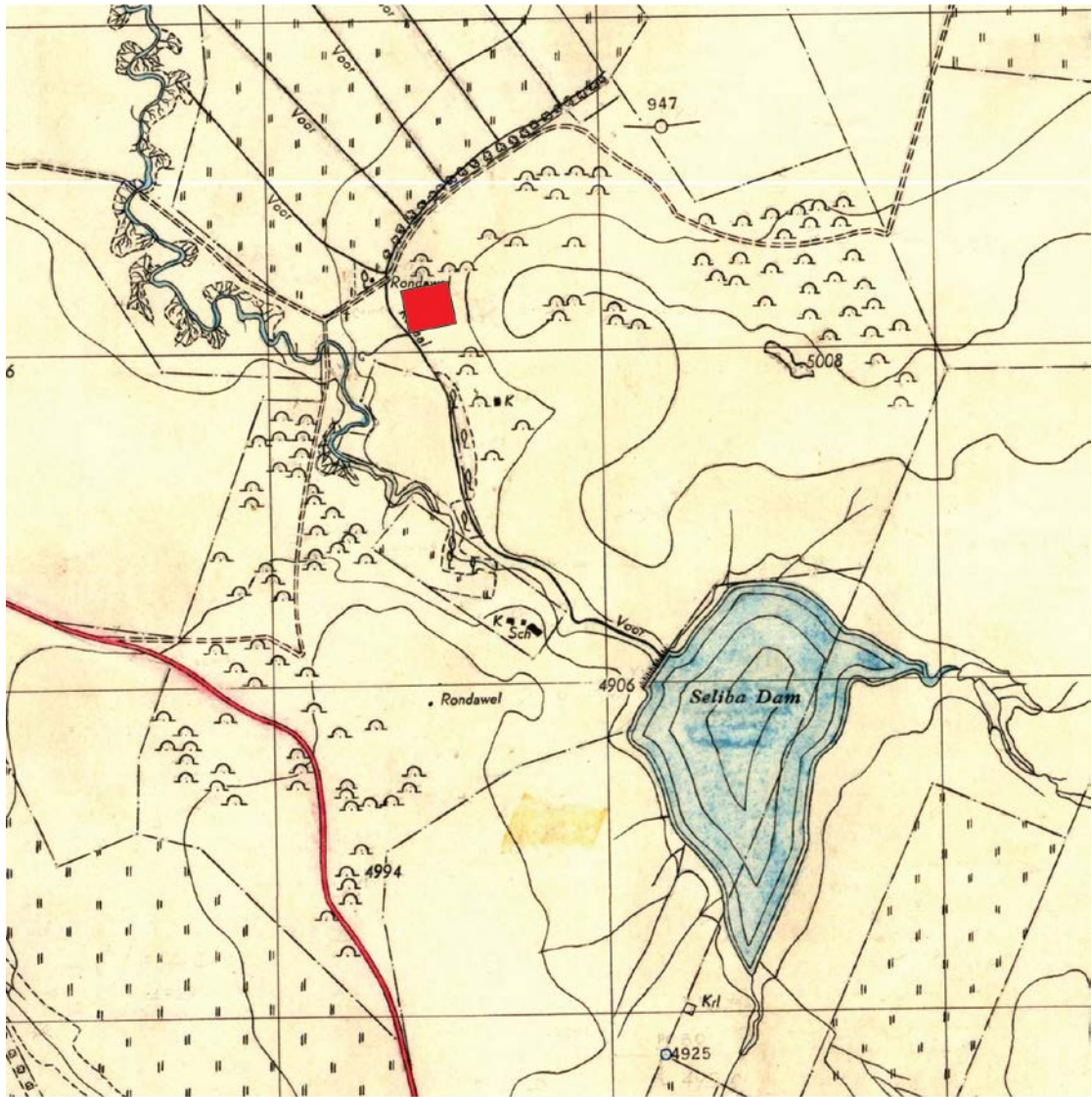
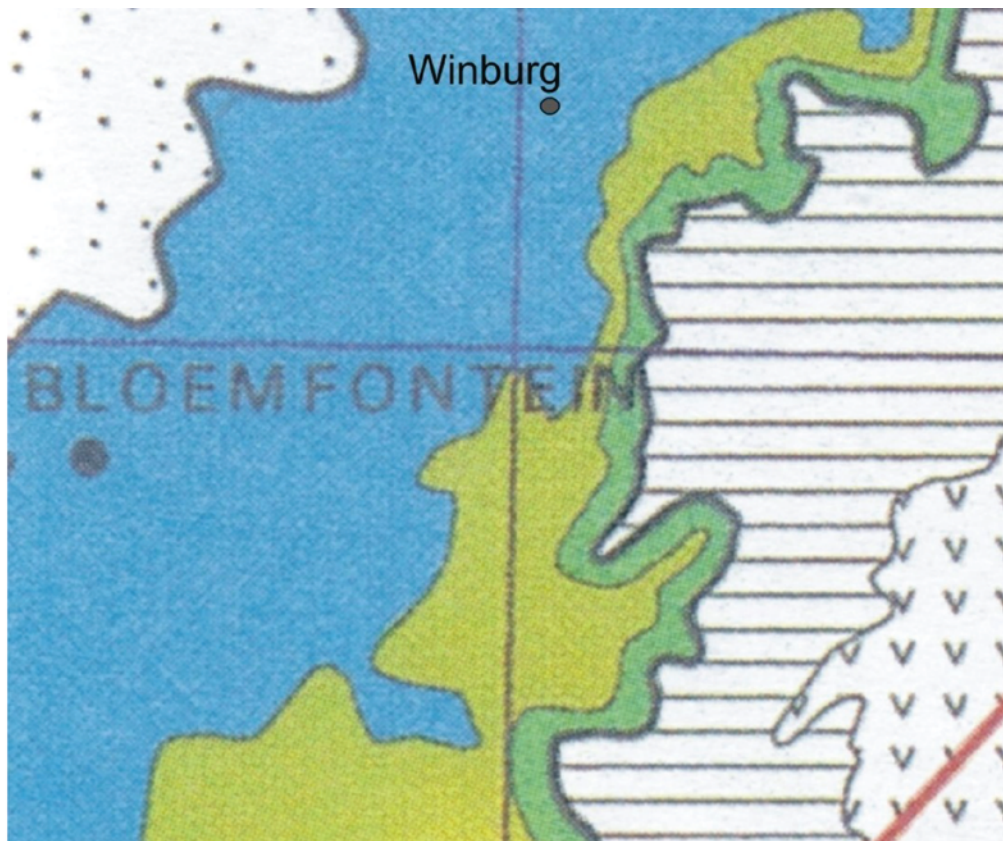


Figure 5. Informal structures or buildings indicated on 1:18 000 scale topographic map 2926 A8 Thaba Nchu dated ca. 1953. Site locality indicated by red square.



LEGEND

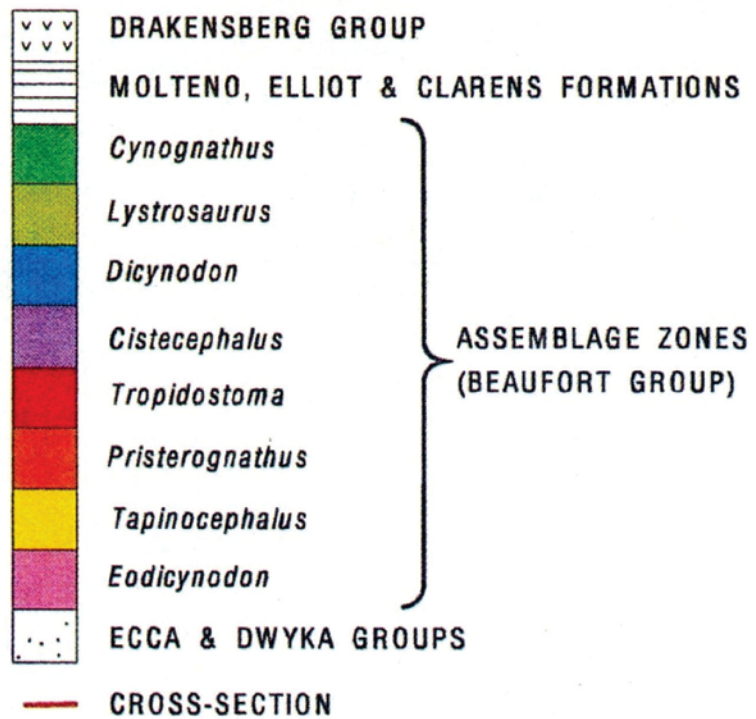


Figure 6. Geographical distribution of vertebrate biozones of the Beaufort Group around Bloemfontein (Rubidge 1995).



Figure 7. The remains of circular Barolong kraals found north of Thaba Nchu.

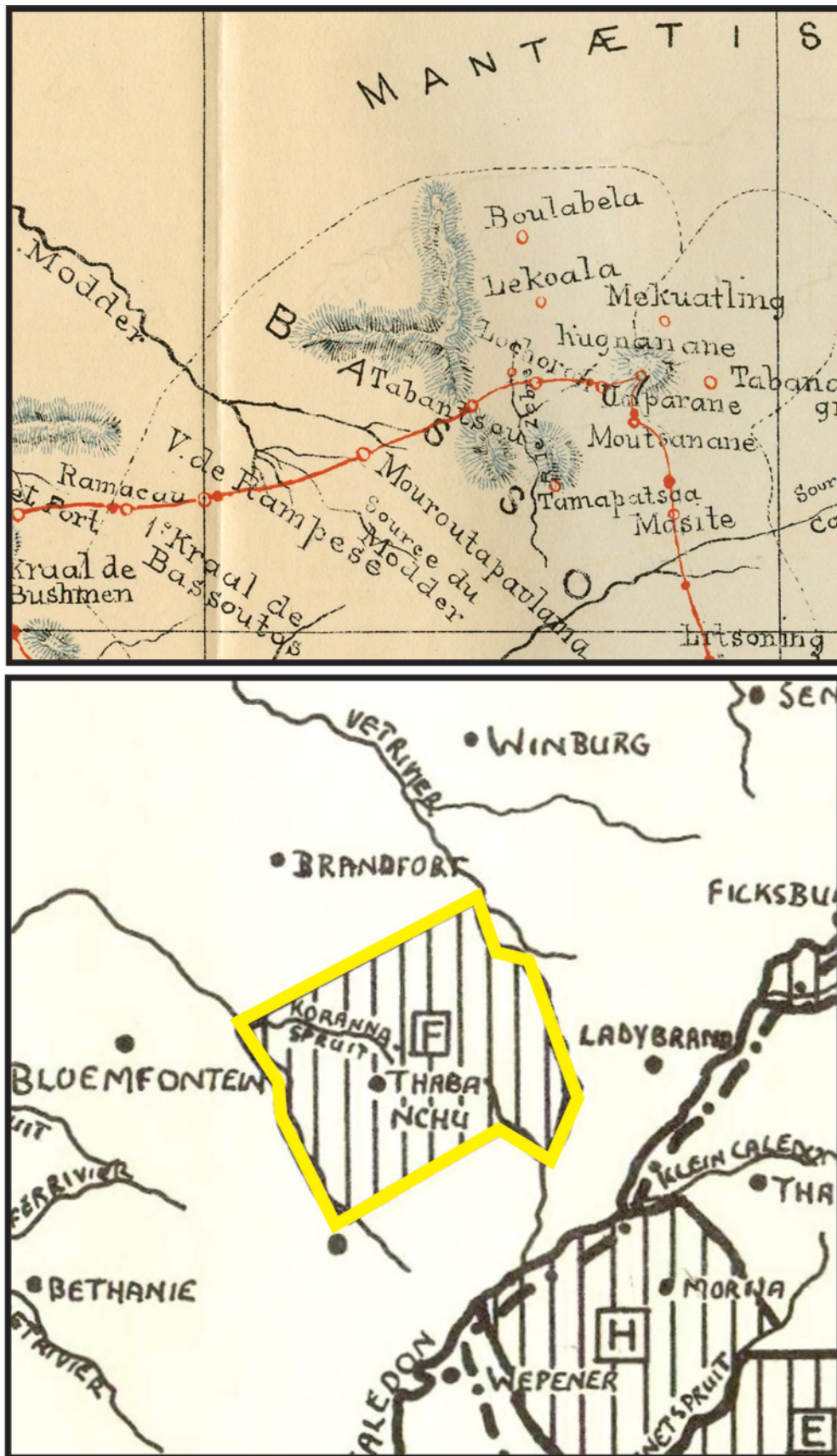


Figure 8. Map by Rev. Casalis in 1834, with boundaries of the country of the Basuto (above) and portion of historical map of designated Barolong land (below).



Figure 9. Examples of the remains of rectangular stone-walled structures located in the region.

Appendix E: Public Participation Report



SEDIBA FARMER
PRODUCTION
SUPPORT UNIT

ENVIRONMENTAL
MANAGEMENT
GROUP

PUBLIC
PARTICIPATION

Contents

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ABBREVIATIONS

BID	Background Information Document
DWS	Department of Water and Sanitation
RI&APS	Registered Interested & Affected Parties
I&APS	Interested & Affected Parties
FPSU	Farmer Production Support Unit
PPP	Public Participation Process

1. INTRODUCTION

The Public Participation Process (PPP) forms an integral part of the rectification application process. It provides people with the opportunity to raise their issues and concerns about the proposed Sediba FPSU. A comprehensive public participation process was conducted by EMG Consultants, to ensure that all identified Interested and Affected Parties (I&APs) were informed of the proposed project and their input is able to influence decision-making process with regards to the development.

2. APPROACH AND METHODOLOGY

The Public Participation Process was conducted as per Regulation 39, 40, 41, 42, 43 & 44 of the Environmental Impact Assessment Regulations 2014 (as amended 07 April 2017) and the Public Participation Guidelines, 2017 were considered. Steps, which were taken to inform the identified I&APs and surrounding community of the proposed development included:

- ♣ Newspaper advertisement;
- ♣ On site Notice and Posters;
- ♣ Notifications, i.e. Distribution of Background Information Document (BID) to neighbouring property Owners & Stakeholders.

3. PUBLIC PARTICIPATION PROCESS CONDUCTED

The methods that were undertaken during conducting of the public participation process as discussed in detail below.

3.1. NEWSPAPER ADVERTISEMENT

The project was advertised in local newspaper, Express on the 8th of July 2020 to inform the I&APs of the Application for Environmental Authorisation for the proposed FPSU.

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORIZATION

Notice is hereby given in terms of regulation 41 of Government Notice No. R326 under the National Environmental Management Act (Act 107 of 1998) as amended 7 April 2017, of intent to carry out the following project:

APPLICATION FOR SEDIBA FARMER PRODUCTION SUPPORT UNIT (FPSU)

NEMA: Listing Notice 1: (GN R 327, 7 April 2017)

R327	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purpose undertaken in accordance with maintenance management plan.
-------------	-----------	---

LOCATION: Thaba `Nchu, situated on the Farm Seliba, No 35, Mangaung Metropolitan Municipality

PROPONENT: Department of Rural Development and Land Reform

CONSULTANT: ENVIRONMENTAL MANAGEMENT GROUP
PO BOX 37473
LANGENHOVEN PARK, 9330
TEL: 051 412 6350
CELL: 083 678 3032/0730361385
EMAIL: svr@envmgrp.com/mk@envmgrp.com

Thirty days are allowed for your comments to reach us as per NEMA (Act 107, 1998, amended 7 April 2017), GN R 326. In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information, and comments on the Draft BAR to the consultant given above.

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018

NOTICE
Notice is hereby given in terms of regulation 41 of Government Notice No. R326 under the National Environmental Management Act (Act 107 of 1998) as amended 7 April 2017, of intent to carry out the following project:
Management Plan
LOCATION: Thaba Nchu, situated on the Farm Seliba, No 35, Mangung Metropolitan Municipality
PROPOSER: Department of Rural Development and Land Reform
CONSULTANT: ENVIRONMENTAL MANAGEMENT GROUP PO BOX 37473 LANGENHOVEN PARK, 9330 TEL: 051 412 6350 CELL: 083 678 3032 E-MAIL: svr@envmgrp.com

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Seema joins big league

Teboho Setena
teboho.setena@volksblad.com

Lehlohonolo Seema has part ways with Bloemfontein Celtic to join the big league as head coach of Chippa United.

The Port Elizabeth based team announced on Monday (06/07) the appointment of the Lesotho born star with immediate effect to the hot seat of head coach, replacing Rhlani Mokoena.



difficulties. The one-time captain of Phunya Sele Sele has been offered a three-year deal by Chippa.

Seema joined the team during the era of former chairman Jimmy Augusti. His stint with Celtic started in 1998 as a player when he was recruited by the late coach Styles Phumo. He was part of the Celtic squad that won the SAA Supa Cup in 2005 and he helped the Bloemfontein giants to regain Premier Soccer League status in 2003.

Seema stayed at Celtic as a player until 2006 when he left to join opponents Orlando Pirates until 2011. Seema leaves Celtic ninth on the log table with 28 points from 23 matches and in the semi-finals of the Nedbank Cup. Phunya Sele Sele made history by reaching the tournament semi-final for the first time in the 12 years of the competition's existence. Seema said he will forever cherish this achievement.

At Chippa, Seema joins former teammate Abram Nteoo, who left Celtic earlier this year. Seema's unexpected departure leaves Maduka and Gopane in

Lehlohonolo Seema during happier times at Bloemfontein Celtic.
Photo: TebohoSetena

Annual meeting to be held online

The Free State Cricket Union's (FSCU) annual general meeting is set to take place on 20 July.

In an effort to curb the spread of the coronavirus, this, the 128th meeting of the FSCU, will be held

online. The board is expected to expand from seven to nine members.

The previous annual general meeting, held on 22 July last year, was attended by the affiliated members.

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* Candidates for Accreditation of specific programmes.

GENERAL NOTICES

COMMUNITY NOTICES

Thabang Motsenyane
or any family member contact Masda de Beer at
Enjo Adoptions
051 522 6914/
082 202 4306
regarding boy child born
2020-06-23

PERSONAL SERVICES

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A BRIDGING LOAN:
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Call: 0860 018 025

LEGAL & TENDERS

LOST DOCUMENTS

FORM JJJ
Notice is hereby given in terms of Regulation 68 of the Deeds Registries Act, 1937, of the intention to apply for the issue of a certified copy of Deed of Transfer T30616/2005 passed by Beverley-Ann Schutte, Identity No: 671228 0028 08 9, Married out of community of property in respect of certain Erf 6 Jagersfontein, District Faresmith, Province Free State and Erf 43 Jagersfontein, District Faresmith, Province Free State, which has been lost or destroyed.

All interested persons having objection to the issue of such copy are hereby required to lodge the same in writing with the Registrar of Deeds at BLOEMFONTEIN within two weeks from the date of the publication of this notice.

Dated at BLOEMFONTEIN this 2nd day of JULY 2020.
MCINTYRE VAN DER POST INC - LUEZL VAN ZYL
Address: 12 BARNES STREET, WESTDENE, BLOEMFONTEIN
E-mail address: luez@mcintyre.co.za
Contact number: 051 505 0200

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Year	Vehicle	Colour	Km	Price	Year	Vehicle	Colour	Km	Price
MERCEDES BENZ					OTHER MANUFACTURERS				
2015	Mercedes Benz A220 CDI BE	White	92 070	299 900	2015	Audi A3 Sportback 1.4 TFSI	Silver	72 505	199 700
2014	Mercedes Benz A45 AMG 4Matic	Silver	111 239	369 900	2013	Audi A7 Sportback 3.0 TFSI	White	69 505	299 700
2013	Mercedes Benz E200 BE A/T	White	63 000	149 900	2016	Audi SQ5 3.0 Bitdi Quattro	White	163 005	379 900
2015	Mercedes Benz B200 Cd	White	89 000	249 900	2017	Hyundai HI 9 Seater	White	91 000	439 900
2016	Mercedes Benz C180 ZA	Silver	69 000	299 000	2015	Nissan Micra 1.2 Visia + Audio 5dr (d86v)	Silver	105 000	95 000
2014	Mercedes Benz C200 CDI B Avantgarde	Silver	137 005	179 900	2015	Renault Clio IV 900T Express	White	82 505	154 200
2014	Mercedes Benz cla350be	Silver	100 005	329 900	2014	Toyota Corolla 1.3 Profession	Blue	80 005	129 900
2013	Mercedes Benz E300 BT Hybrid	Silver	52465	299 700	2018	Toyota Yaris 1.5 Sport	Red	47 500	189 700
MITSUBISHI					Fiat ALFA JEEP DODGE CHRYSLER				
2015	ASX 2.0 Litro GL - My15	Silver	68 500	179 900	2019	Alfa 159 1.9 JTS High	Beige	165 000	79 900
2019	Mitsubishi Triton 2.4 GLX D/C 4x4 A/T - My19	White	12 100	529 900	2018	Fiat Tipo Hatchback 1.4 HB Pop	Grey	14 057	179 900
2010	Mitsubishi Triton 3.2 DI-DC DCab 4X4	White	169 000	199 900					

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3.2. SITE NOTICES

On site notices was placed on the 2nd of July 2020, to bring the proposed development to the attention of I&APs including surrounding land users.

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORIZATION

Notice is hereby given in terms of regulation 41 of Government Notice No. R326 under the National Environmental Management Act (Act 107 of 1998) as amended 7 April 2017 of intent to carry out the following project:

APPLICATION FOR SEDIBA FARMER PRODUCTION SUPPORT UNIT

NEMA: Listing Notice 1: (GN R 327, 7 April 2017) –

<u>R327</u>	27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) <u>maintenance purpose undertaken in accordance with maintenance management plan.</u>
-------------	----	---

LOCATION: Thaba Nchu, situated on the Farm Seliba, No 35, Mangaung Metropolitan Municipality

PROPONENT: Department of Rural Development and Land Reform

CONSULTANT: ENVIRONMENTAL MANAGEMENT GROUP
PO BOX 37473
LANGENHOVEN PARK, 9330
TEL: 051 412 6350
CELL: 083 678 3032
EMAIL: svr@envmgrp.com



Thirty days are allowed for your comments to reach us as per NEMA (Act 107, 1998, amended 7 April 2017), GN R 326. In order to ensure that you are identified as an interested and/or affected party, please submit your name, contact information, and comments on the Draft BAR to the consultant given above.

3.2.1 Poster was placed in surrounding area



3.2.2 The poster was placed at







**PROPOSED SEDIBA FARMER PRODUCTION SUPPORT UNIT
PUBLIC PARTICIPATION REPORT**



3.4 NOTIFICATION SENT TO LOCAL AUTHORITY & STAKEHOLDERS

18 August 2020

Dear Sir/Madam

Re: Notice is given in terms of Government Notice No. 326 in Government Gazette No. 40772 of 7 April 2017 issued under the National Environmental Management Act 1998, (Act 107 of 1998) and The National Water Act (NWA), 1998 (Act 36 of 1998) of intent to carry out the following activity:

APPLICATION FOR SEDIBA FARMER PRODUCTION SUPPORT UNIT

We have been appointed by appointed by SMEC South Africa for the Department: Rural Development and Land Reform to conduct an application for Environmental Authorisation for the Sediba Farmer Production Support Unit (FPSU) Development near Thaba Nchu, Sediba Village in the Mangaung Metropolitan Municipality in the Free State Province.

The Draft Basic Assessment Report can be accessed by clicking on the following links:

<http://envmgrp.com/wp-content/uploads/2020/08/Sediba-FPSU-Draft-BAR.pdf>

or by visiting our website <http://envmgrp.com/>. Go to Projects, Agriculture, SMEC – BAR, Environmental Screening, BAR, IWULA- Farmer Production Support Units Development in the Free State Province (Koffiefontein; Odendaalsrus; Sediba; Ficksburg; Kroonstad)- **Department of Rural Development and Land Reform, Free State**. The Draft Bar can be downloaded from there.

Thirty days for comments to reach us are allowed per NEMA (Act 107, 1998, amended 7 April 2017), GN R 326, commencing on the date of circulating of the Draft BAR. Your comments on the project will be appreciated.

Should you have any project related queries, or difficulty downloading the Report please do not hesitate to contact the undersigned

Sincerely



S.E. van Rooyen
Director Managing & Environmental Assessment Practitioner & Ecologist
(MSc. Cand.Sci.Nat.116554; IAIA Reg No. 5901)

EMG CONSULTANTS
September 2020

PROPOSED SEDIBA FARMER PRODUCTION SUPPORT UNIT PUBLIC PARTICIPATION REPORT

Cell: 083 678 3032
E- mail: svr@envmgp.com

FILE

MESSAGE

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Sediba Draft BAR

Christien Kruger <ckruger@envmgp.com>

Tue 18 Aug 2020 09:19

To: 'Thabethe (ja.hodadric@fs.agric.za); Ms Zilungile Mankhela'; 'Nel George'; 'Ntsho, msiza@mangaung.co.za'; 'hodoffice@fs.works.gov.za'; 'mbatharupr@sar.fs.gov.za'; 'loudine Philip'; 'Lethole, Monyeke@mangaung.co.za'; 'drc.barolong@gmail.com'; 'mouri.mouri@mangaung.co.za'

! This message was sent with High Importance.

18 Aug 2020

Hi, I have been requested by the Department of Agriculture, Forestry and Fisheries to assist in the development of a Public Participation Report for the proposed Sediba Farmer Production Support Unit. The report will be used to inform the Department of Agriculture, Forestry and Fisheries of the views of the public on the proposed unit. The report will also be used to inform the public of the views of the Department of Agriculture, Forestry and Fisheries on the proposed unit. The report will be submitted to the Department of Agriculture, Forestry and Fisheries by the end of the month. I would appreciate your assistance in this regard. Please let me know if you have any questions or if you need any further information. Thank you for your time and assistance.

Yours faithfully,
Christien Kruger
Senior Project Manager
Sediba Farmer Production Support Unit

EMG CONSULTANTS
18 Aug 2020

PROPOSED SEDIBA FARMER PRODUCTION SUPPORT UNIT PUBLIC PARTICIPATION REPORT

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SEDIBA FARMER PRODUCTION SUPPORT UNIT

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CaseHeader

LocationInfo

Admin

Status: SUBMITTED

HeritageAuthority(s): SAHRA

Case Type: Development

Development Type: Agriculture

ProposalDescription:
 The proposed development is situated about 100m from the Sediba village. The proposed development entails a Farmer Production Support Unit (FPSU). The FPSU is a rural small-holder farmer outreach and capacity building unit that links farmers with markets. The FPSU does primary collection, some storage, provides some processing for the local market, and extension services including mechanisation. The FPSU is located on Remaining Extent of Farm Seliba 35 , Thaba Nchu, Mangaung Metropolitan Municipality, Free State.

Expanded_Motivation:
 The proposed development is situated about 100m from the Sediba village. The proposed development entails a Farmer Production Support Unit (FPSU). The FPSU is a rural small-holder farmer outreach and capacity building unit that links farmers with markets. The FPSU does primary collection, some storage, provides some processing for the local market, and extension services including mechanisation. The Proposed land uses include: - Security Offices – 27m2 - Reception and admin offices – 440m2 - Office and Storage shed – 600m2 - Logistic Centre – 350m2 - Multi-purpose animal handling facility/Sheep shearing – 300m2. This development will be constructed in two phases. Phase 1 of the development includes the construction of the office and storage shed. Phase 2 of the development will include an additional construction of Security Offices, Reception and admin offices, Logistic Centre and a Multi-purpose animal handling facility/Sheep shearing

ApplicationDate: Tuesday, August 18, 2020 - 15:15

CaseID: 15381

Applicants: Matshego Keikelame

Consultants/Experts: Lloyd Rossouw

OtherReferences:

Dept	CaseReference	DueDate	FinalDecision
		30/09/2020	

Heritage Reports:
 Phase 1 Heritage Impact Assessment of a proposed new piggery on the farm Sediba 35 near Excelsior, FS Province

ReferenceList:

AdditionalDocuments

1. Sediba FPSU Draft BAR.pdf

3.6 LIST OF I&AP's

List of I&AP's				
<u>Department/ Organisation</u>	<u>Contact Person</u>	<u>E-Mail Address</u>	<u>Address</u>	<u>Contact Nr</u>
Department of Agriculture and Rural Development	Mr Thabethe	pa.hodagric@fs.agric.za schultzjg@gmail.com	Gielie Joubert St, Glen, BFN, 9360	051 861 8509
Department of Water & Sanitation	Mr G Nel	nelg@dws.gov.za	Private Bag 528 BLOEMFONTEIN 9300	051 405 9000
Department of Public Works and Infrastructure	Ms G Brown	hodoffice@fs.works.gov.za	Cnr Markgraaf & St Andrew's Streets Bloemfontein 9301	051 492 3909
Department of Agriculture Forestry and Fisheries	Mrs Zilungile	zilungilem@daff.gov.za	C/O Henry & East Burger Str 2 Floor Bloemfontein 9301	
Mangaung Metropolitan Municipality District Municipality – Municipal Manager	Advocate Tankiso Mea	Lethole.Monyeke@mangaung.co.za	Bram Fischer Building Nelson Mandela Drive & Markgraaff Street Bloemfontein 9300	051 405 8621/ 051 405 8885
Ward Councilor 41 Municipality	Clr Moruri (Moruri Michael)	moruri.moruri@mangaung.co.za	Bram Fischer Building Nelson Mandela Drive & Markgraaff Street Bloemfontein 9300	0839388529
Mangaung Metropolitan Municipality District Municipality – Executive Mayor	Clr Oly Mlamleli	hloue.msiza@mangaung.co.za	1st Floor, Room 101 Bram Fischer Building Nelson Mandela Drive & Markgraaff Street Bloemfontein 9300	082 888 3302 / 051 405 8494
Tribal Council	Mr Sehume	btc.barolong@gmail.com	Private Bag X 4	

**PROPOSED SEDIBA FARMER PRODUCTION SUPPORT UNIT
PUBLIC PARTICIPATION REPORT**

3.7 RESPONSES RECEIVED FROM I&APS

No comments were received from the I&AP's.

4. CONCLUSION

It is concluded that the methods incorporated in the public participation process to inform the surrounding landowners, users, organs of state and identified government authorities was adequate. All the identified I&APs were given with an opportunity to give input regarding the proposed construction and no objections were received.

Appendix F: Impact Assessment



ENVIRONMENTAL MANAGEMENT GROUP

Specialists in Environmental Management
Integrating Industry and Infrastructure with the Environment

Tel: +27 51 412 6350
Fax: +27 51 412 6351
Email: ckruger@envmgrp.com
Postal Address:
P.O.Box 37473,
Langenhoven Park 9330

Environmental Impact Assessment

SEDIBA FARMER PRODUCTION SUPPORT UNIT



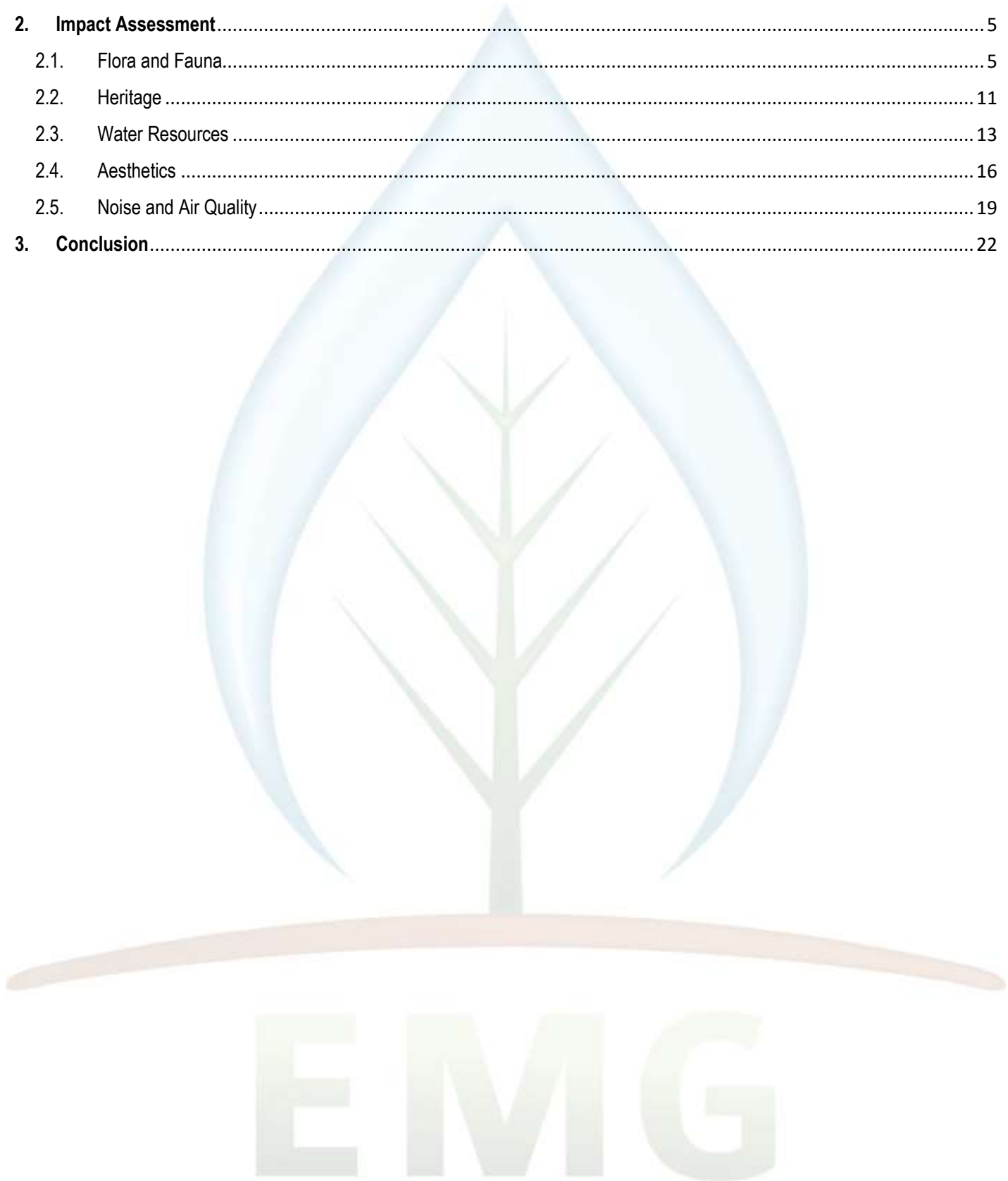
Prepared by: Matshego Keikelame

Reviewed by: Sampie van Rooyen

EMG

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1. Assessment Methodology

The environmental significance assessment methodology is based on the following determination:

Environmental Significance = Overall Consequence x Overall Likelihood.

1.1. Determination of Consequence

Consequence analysis is a mixture of quantitative and qualitative information and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale. Each factor is assigned a rating of 1 to 5, as described in the tables below.

Determination of Severity

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment (Table 1).

Table 1: Rating of severity

Type of criteria	Rating				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%
Qualitative	Insignificant / Non-harmful	Small / Potentially harmful	Significant / Harmful	Great / Very harmful	Disastrous Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance / Easily reversible	Low cost to mitigate	Substantial cost to mitigate / Potential to mitigate impacts / Potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate / Little or no mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Medium change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

Determination of Duration

Duration refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g. remedial action takes place (Table 2).

Table 2: Rating of Duration

Rating	Description
1: Low	1 Month
2: Low-Medium	1 – 3 Months
3: Medium	More than 3 Months
4: Medium-High	5 – 10 Years
5: High	More than 10 Years

Determination of Extent/Spatial Scale

Extent refers to the spatial influence of an impact, be it contained to the immediate surroundings (site), extending to the surrounding area, regional (will have an impact on the region), national (will have an impact on a national scale) or international (impact across international borders) (Table 3).

Table 3: Rating of Extent / Spatial Scale

Rating	Description
1: Low	Immediate, fully contained area (site)
2: Low-Medium	Surrounding Area
3: Medium	Regional
4: Medium-High	National
5: High	International

Determination of Overall Consequence

Overall consequence is determined by adding the factors determined above and summarised below, and then dividing the sum by 3 (Table 4).

Table 4: Example of calculating Overall Consequence

Consequence	Rating
Severity	Example 4
Duration	Example 2
Extent	Example 4
SUBTOTAL	Example 10
TOTAL CONSEQUENCE:(Subtotal divided by 3(Severity, Duration, Extent))	Example 3.3

1.2. Determination of Likelihood

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5 (Tables 5 and 6).

Determination of Frequency

Frequency refers to how often the specific activity, related to the event, aspect or impact, is undertaken (Table 5).

Table 5: Rating of frequency

Rating	Description
1: Low	Once a year / once during construction
2: Low-Medium	Once / more in 6 Months
3: Medium	Once / more a Month
4: Medium-High	Once / more a Week
5: High	Daily

Determination of Probability

Probability refers to how often the activity/event or aspect has an impact on the environment (Table 6).

Table 6: Rating of probability

Rating	Description
1: Low	Almost never / almost impossible
2: Low-Medium	Very seldom / highly unlikely
3: Medium	Infrequent / unlikely / seldom
4: Medium-High	Often / regularly / likely / possible
5: High	Daily / highly likely / definitely

Overall Likelihood

Overall likelihood is calculated by adding the factors determined above and summarised below, and then dividing the sum by 2 (Table 7).

Table 7: Example of calculating the overall likelihood

Likelihood	Rating
Frequency	Example 4
Probability	Example 2
SUBTOTAL	Example 6
TOTAL LIKELIHOOD (Subtotal divided by 2 (Frequency, Probability))	Example 3

1.3. Determination of Overall Environmental Significance

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH or HIGH (Table 8).

Table 8: Determination of overall environmental significance

Significance or Risk	Low	Low-Medium	Medium	Medium-High	High

Overall Consequence X Overall Likelihood	1 - 4.9	5 - 9.9	10 - 14.9	15 – 19.9	20 - 25
--	---------	---------	-----------	-----------	---------

Qualitative description or magnitude of Environmental Significance

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritisations and decision-making process associated with this event, aspect or impact (Table 9).

Table 9: Description of the environmental significance and the related action required.

Significance	Low	Low-Medium	Medium	Medium-High	High
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to the company	Impact is real and substantial in relation to other impacts. Pose a risk to the company and environment. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.



2. Impact Assessment

2.1. Flora and Fauna

Flora refers to the vegetation found in and around the area that will be assessed. This includes all species of vegetation from protected and indigenous species to alien and exotic plant life. Fauna refers to the animal life, inclusive of birds, mammals, invertebrates and reptiles found in or around the site being assessed. The fauna assessment also includes locating preferred habitats of protected/Endangered fauna species.

1. Clearance of Vegetation								
Impact	Clearance of vegetation							
Description of impact	Vegetation will be cleared on site as a result of Siting of construction camp and construction of the FPSU. This could lead to negative environmental impacts							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	2	1	2	3	2	2,5	5
Mitigation	<ul style="list-style-type: none"> Only vegetation within the vicinity of the FPSU can be removed. Keep vegetation removal to a minimum and only remove what is required. Minimal to no vegetation removal around or within the construction area. The construction area must be demarcated to prevent movement in private property and adjacent natural veld. Topsoil must be stockpiled and kept clean from alien vegetation. This topsoil must be used for rehabilitation purposes. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	2	1	1,6	1	2	1,5	2,4
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	1	2	3	2	2,5	5
Mitigation	<ul style="list-style-type: none"> Contain the natural environment and ensure the Environmental Management Plan is adhered to. No removal of indigenous vegetation or protected species. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	2	2	2	2,7
Cumulative Impact	A major cumulative impact on the clearance of vegetation has already occurred in the first phase of this development.							
Additional Notes:	Although the area over which clearance of vegetation will take place is extensive, most of the construction activities will take place within gravels roads on private land. The areas outside the proposed construction area will contain natural vegetation and the area must be treated as sensitive with minimal to no removal of vegetation.							

The impact on clearance of vegetation will be **LOW-MODERATE** without mitigation and **LOW** when mitigation measures are applied. This risk assessment applies for both construction and operational phases and is described as having a low order impact likely to have little to real effect. It is however necessary to implement monitoring and evaluation procedures to determine the potential of increase in risk.

2. Land transformation – Veldfires								
Impact	Accidental or intentional causing of veld fires.							
Description of impact	Machinery and human activity may increase veldfire risk levels causing dry vegetation to catch fire and burn a substantial piece of vegetation.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	5	1	4	3,3	1	1	1	3,3
Mitigation	<ul style="list-style-type: none"> • The Developer will ensure that firefighting equipment is available onsite in the event that an accidental fire should break out. • Construction workers will not be allowed to make fires on the site. • Construction activities that generate heat or an open flame should be monitored and appropriate measure taken to prevent run away veld fires. • A Fire Management Plan must be present on site • The local fire station, landowner and neighbouring landowners must be alerted about potential of causing a fire. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	4	1	4	3	1	1	1	3,0
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	NO IMPACT							
Mitigation								
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	NO IMPACT							
Cumulative Impact	Fire will cause the loss of veld used for grazing purposes by the surrounding community.							

Veld fires will only have an impact during the constructional phase and is rated according to the risk matrix of having a LOW impact. Although the assessed risk is low the threat or severity of the impact is high and can cause large scale destruction if this risk is not managed and monitored regularly.

3. Unauthorised vehicle movement								
Impact	Trampling of pristine or undisturbed grassland- and vegetation.							
Description of impact	If construction or maintenance vehicles move outside the demarcated construction area, potential significant vegetation can be destroyed. This impact will be more significant in sensitive areas such as the existing concrete irrigation canal, and pristine grasslands.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	2	1	2	5	4	4,5	9,0
Mitigation	<ul style="list-style-type: none"> Vehicles must remain within demarcated construction footprint. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	4	2	3	4,0
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	2	2	2,3	2	2	2	4,7
Mitigation	<ul style="list-style-type: none"> Vehicles must stay to existing gravel roads during any maintenance activities. Vehicle drives must be informed where it is safe to drive. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	2	2	2	2,7
Cumulative Impact	A cumulative impact has already occurred and on private land were small single gravel pathways have been made to access the boundaries of the private land.							
Additional Notes:	This activity is not expected to have a great influence on vegetation as most will occur within existing degraded areas. Special attention should be given to areas that are not disturbed.							

Unauthorised vehicle movements and the subsequent damaging of vegetation outside the construction boundaries is rated to have a **LOW-MODERATE** impact during the construction phase and a **LOW** impact during the operational phase. Damaging of vegetation is rated higher during the construction phase as most of the heavy vehicles will be involved during this phase and it is of utmost importance that workers and contractors be made aware of operational boundaries. This impact should be monitored and mitigation measures applied when the impact realises.

4. Hunting and gathering of Fauna								
Impact	Actively removing animal life through destructive measures.							
Description of impact	During the construction or maintenance of the FPSU it is possible that certain species of animals may occupy the designated areas. Killing of the animals might take place.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	2	2	2.33	4	1	2.5	5.8
Mitigation	<ul style="list-style-type: none"> No hunting or trapping of animals to be permitted No fauna or flora should be eradicated unnecessarily and should be discussed during the monthly toolbox talks. A specialist must be consulted to identify sensitive species, highly susceptible to disturbances caused by construction. If species like this are found on the construction footprint, a search-and-relocate must be implemented for them. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	2	2	2	1	1	1	2.0
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	1	2	1.67	3	1	2	3.3
Mitigation	<ul style="list-style-type: none"> Any animals found onsite should be relocated During maintenance special care should be given to any animals that re-occupied the site after construction has been completed. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,33	2	1	1,5	2.0
Cumulative Impact	A cumulative impact has already occurred with most of the area already transformed resulting is wildlife moving to undisturbed areas.							

It is not foreseen that any animals might be hunted or intentionally destroyed. It is also important to keep in mind that most of the areas are in degraded areas devoid of animal life. Being said it is important to inform workers and contractors of the reality of encountering multiple species. The above-mentioned factors rate this impact as being a **LOW – MODERATE** with the risk having a low severity and a low probability of occurring.

5. Loss of habitat and species diversity								
Impact	Loss of habitat and species diversity.							
Description of impact	Due to the construction of the FPSU it is possible that animal life never returns, especially around the proposed area.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	5	2	5	3	2	2,5	12,5
Mitigation	<ul style="list-style-type: none"> • Limit the amount of construction sites that are worked on simultaneously. • Proper rehabilitation of construction sites. • Consult an ecologist with regards to sustainable rehabilitation of the disturbed areas. • Construction footprint to be demarcated as per the construction phase conditions outlined • Construction vehicles will be restricted to travel only on designated roadways to limit the ecological footprint of the proposed development • Rehabilitation measures must be implemented in areas where the soil surface was disturbed 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	2	3	2.3	2	1	1,5	3.5
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
Mitigation	NO IMPACT							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	NO IMPACT							
Cumulative Impact	A cumulative impact has already occurred with most of the area already transformed.							
Additional Notes:	Although construction activities are rated as having a medium impact on animal life, it is not expected that it will have a high significance on a large scale. This is due to the area already being degraded and any animal life that still remains are scares. As with vegetation, special care should be given around the proposed site, as these areas are still in good condition and support numerous animal life.							

The risk of permanent loss of animal life is rated to be **HIGH** without mitigation and **LOW** with mitigation only during the construction phase. Activities during the operational phase are minor and will cause no impact to the loss of animal life. The risk matrix describes this impact as being real and substantial in relation to other impacts. It is crucial that all mitigation measures be implemented to counter act the effects of the construction phase and the impact it will have on animal life.

Flora and Fauna Impacts						
Impacts	Constructional Phase		Operational Phase		Total Before Mitigation	Total After Mitigation
	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation		
1. Clearance of Vegetation	5	2.4	5,8	2,7	5.4	2.55
2. Land transformation – Veldfire	3,3	3,0	NO IMPACT	NO IMPACT	1,65	1.5
3. Unauthorised vehicle movement	9,0	4,0	4,7	2,7	6.85	3,3
4. Hunting and gathering of Fauna	5,8	2,0	3,33	2,0	4,57	2,0
5. Loss of habitat and species diversity	12.5	3,5	NO IMPACT	NO IMPACT	6.25	1,75
					4.9	2.22

Although there are potentially significant individual impacts that can occur, it is foreseen that no real damage will occur during the construction of the FPSU. For the impacts that the construction of the FPSU will have on the fauna and flora, the risk matrix rates the impact at a **LOW-MODERATE** score before mitigation and a **LOW** after mitigation has been implemented.

2.2. Heritage

Heritage involves culturally significant finds including, but not limited to fossils, artefacts and certain culturally relevant infrastructure. These items will be identified by a Heritage Specialist throughout the construction phase of this project.

1. Artefacts and Fossils								
Impact	Damaging any artefacts or fossils							
Description of impact	Possible archaeological and/or historical sites, features or artefacts that could be found during site clearing.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	2	1	2	3	2	2,5	5
Mitigation	<p>Management Measures</p> <p>In the event that historical and archaeological artefacts are found during the construction phase, a Chance Find Procedure should be followed. The key steps in this process would be as follows:</p> <ul style="list-style-type: none"> • Upon finding any archaeological or historical material all work at the affected area must cease • The area will be demarcated in order to prevent any further work there until an investigation has been completed • An archaeologist will be contacted immediately to provide advice on the matter • Should it be a minor issue, the archaeologist will decide on future action, which could include adapting the HIA or not. Depending on the nature of the find, it may include a site visit • SAHRA's APM Unit will be notified • If needed the necessary permit will be applied for with SAHRA. This will be done in conjunction with the appointed archaeologist 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	1	1	1,33	2	1	1.5	2
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
Mitigation	NO IMPACT							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	NO IMPACT							
Cumulative Impact								
Cumulative Impact	No cumulative impacts are foreseen							
Additional Notes								
Additional Notes	Although most of the impact will occur during the construction phase, artefacts and fossils can be discovered throughout the lifetime of the project and special care needs to be taken to ensure the identification of such artefacts and the immediate contacting of a specialist.							

Whilst clearing vegetation for the construction of the proposed FPSU, it is possible that archaeological and/or historical sites, features or artefacts could be found. In the event that this happens, the Chance Find Procedure should be followed. The above-mentioned factors score the impact before mitigation at a **LOW-MEDIUM** risk and **LOW** after mitigation has been applied.

Heritage Impacts						
	Constructional Phase		Operational Phase		Total Before Mitigation	Total After Mitigation
Impacts	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation		
1. Artefacts and Fossils and historical features	10,5	3,3	NO IMPACT	NO IMPACT	10,5	3,3
					9,8	3,0

The proposed footprint is located on previously developed land surrounded by the remains of old rectangular kraals most likely linked to historical residential occupation. These structures will not be affected by the proposed development. The above-mentioned factors, according to the risk matrix, score an overall **LOW-MEDIUM** impact before mitigation and **LOW** after mitigation.

2.3. Water Resources

Water resources include every aspect of water including surface and ground water, as well as assessments on their quality and quantity.

1. Surface water quality								
Impact	Deterioration of surface water (ponds, rivers and dams) quality.							
Description of impact	During the construction phase, surface water resources may become contaminated as a result of constructing the FPSU and using hazardous material. It is also very likely that heavy construction vehicles may leak oil and other petroleum products which can end up in surface water resources. The operational phase during maintenance also has the possibility to contaminate water resources, by using hazardous substances carelessly. However there is no surface water near the proposed area.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	1	1	1,3	2	1	1.5	1,95
Mitigation	<ul style="list-style-type: none"> • Surface contamination of the soil through hazardous materials should be cleaned up immediately and disposed of properly. • All vehicles must be fitted with a drip tray and leaking vehicles must be repaired off site at a designated construction area. • It is recommended to use alternative substances to those that are hazardous especially near sensitive areas such as the existing irrigation concrete canal within close proximity of the area • . 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	1	1	1	1	2	1.5	1.5
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	2	1.6	1	2	1.5	2.6
Mitigation	<ul style="list-style-type: none"> • Any maintenance taking place in the FPSU should have a spillage treatment kit with them at all times. • All spillages must be cleaned before leaving a site. • All animal waste is to be removed and disposed to a registered Landfill site 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	1	1	1	1,3
Cumulative Impact	Cumulative impacts can manifest during the construction phase if spillages increase and aren't removed whereby surface runoff will carry the pollutants to surface water resources.							

Access to the existing irrigation concrete canal from clearing of vegetation in preparation for construction activities is likely to lead to disturbance. The impact on surface water can become a risk at any construction site if no mitigation is followed and the risk further exaggerated if operational methods use hazardous substances. If the correct mitigation measures are followed the risk significantly reduces and is based upon the reaction times between when the spills or contamination occurs up until when it is mitigated and properly disposed of. The construction phase has a rating of LOW before mitigation and **LOW** after mitigation. The operational phase has a lower risk and rates **LOW** before mitigation and **LOW** after mitigation.

The major risk to groundwater quality will be associated with activities on the surface such as spillages of hazardous substance, which will infiltrate over a period of time into the aquifer, which, depending on the size of the spill, can contaminate the whole aquifer. It is thus crucial to exercise mitigation measures during such incidents to avoid other groundwater users in the area being negatively affected by poor quality water. Both of the construction and operational phases show low severity if the aquifer is contaminated and low probability of occurring during this project. This equates to a construction phase score of LOW-MEDIUM before mitigation and LOW score after mitigation. The operational phase follows the same trend. If mitigation measures are applied it can be foreseen that this risk will have no impact on the aquifer's quality.

2. Hydrological – Storm water System								
Impact	Over abstraction of groundwater							
Description of impact	Storm water runoff will be as per natural state and due to clearing of vegetation This could lead to increased risk of erosion along vehicle routs that form preferential flow paths							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	1	1	1,3	2	1	1.5	1,95
Mitigation	<ul style="list-style-type: none"> Storm water run-off generated within the development should be accommodated through formal system 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	1	1	1	1	2	1.5	1.5
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	2	1.6	1	2	1.5	2.6
Mitigation	<ul style="list-style-type: none"> Storm water system should be implemented 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	1	1	1	1,3
Cumulative Impact	Cumulative impacts can manifest during the operational phase if flooding around the area occurs whereby surface runoff will increase.							
Additional Notes:	Note that no impacts are discussed for the abstraction of groundwater during this project as up until the assessment no such activities are being implemented. It is however planned in the future to augment the water supply from groundwater.							

This risk has not yet been incorporated into the project as abstracting borehole water will only be considered further down the line. If it is decided to augment the water supply further with borehole water a separate impact assessment will be done during a full geohydrological study.

Water Resources						
	Constructional Phase		Operational Phase		Total Before Mitigation	Total After Mitigation
Impacts	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation		
1. Surface water Quality	1.95	1.5	2.6	1.3	1.63	1.4
2. Hydrological – Storm water System	1.95	1.5	2.6	1.3	1.63	1.4
					1.63	1.4

The impact on surface water will be low as no abstractions are anticipated. Groundwater resources will stay unaffected as long as proper mitigation measures are followed. In total, the risk to Surface and Groundwater resources are rated to be **LOW** before mitigation and **LOW** after mitigation. The risk matrix however still advises that constant monitoring be applied and to improve where possible.

2.4. Aesthetics

This risk to the visual character of the environment will be based on a cumulative contribution of all the specialists and physical site visits done by the Environmental Assessment Practitioner.

1. Lowering of aesthetic value of immediate location around FPSU								
Impact	Lowering aesthetic value of the surrounding environment, where the FPSU will be built.							
Description of impact	During the construction works and maintenance during the operational phase the aesthetic value of the surrounding environment will be lowered due to open trenches and construction works.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	5	2	3,3	5	2	3,5	11,7
Mitigation	<ul style="list-style-type: none"> It is recommended that the number of construction sites be kept to a minimum to lower the overall aesthetic impact. Once an area is completed it is recommended that the area be rehabilitated before moving on to the next section through levelling off the ground and re-vegetating the excavated areas. Trenches may not be kept open and unattended for longer than 30 days. 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	4	1	2,3	4	2	3	7,0
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	3	2	2,7	2	2	2	5,3
Mitigation	<ul style="list-style-type: none"> Upgrading and continuous maintenance of the developed FPSU site should occur as quickly as possible to minimize the overall aesthetics value created by open trenches, soil heaps, construction signs and still standing vehicles. Incorporate natural vegetation from the surrounding area so that the buildings blend into the surrounding environment 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	1	2	2	2	2	4,0
Cumulative Impact	A cumulative impact has already occurred through the main gravel road and private access roads on private land and excavating along the already disturbed areas will have a very small cumulative impact.							
Additional Notes	None.							

Due to the extent over which the FPSU will be constructed the aesthetic risk will be increased during the construction phase. In the operational phase factors such as the visibility of the FPSU buildings that will be above ground will increase aesthetic risk.. Considering the factors above the risk to aesthetics during the construction phase is rated to be **MODERATE** before mitigation and **LOW-MODERATE** after mitigation. The operational phase will be less intrusive and will only be seen by a handful of people, scoring a **LOW-MODERATE** score before mitigation and **LOW** scores after mitigation.

2. Lowering of aesthetic value for the surrounding area.								
Impact	Construction and permanent feature of the FPSU close to the community.							
Description of impact	Since the FPSU will be located close to the Sediba community, vegetation clearance will take place. Poor hygienic conditions in the FPSU will also result in disease outbreaks. Rodents will be attracted to the feed store, and animal handling facility due to extensive food availability. These factors will all impact negatively on the aesthetic value.							
Constructional Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	4	2	3	4	2	3	9,0
Mitigation	<ul style="list-style-type: none"> • Avoid excessive clearance of vegetation and disturbance to the area. • Practice good general housekeeping practices and continuously clean the site of unwanted waste 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	1	2	2	2	2	4,0
Operational Phase								
Before Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	2	2,3	4	1	2,5	5,8
Mitigation	<ul style="list-style-type: none"> • It is recommended that after the construction phase and before the operational phase, that indigenous trees be planted around the disturbed and cleared area to recover some aesthetic value for the area as well as blending the FPSU into the environment. • Monitoring the occurrence of rodents and manage by means of traps • Regularly inspections by the owner as well as state veterinary services • Proper disposal of condemned animal mortalities to prevent distribution of diseases • The premises must be fenced and provided with a gate to control access of people and animals 							
After Mitigation:	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	1	1,3	3	1	2	2,7
Cumulative Impact	A cumulative impact can occur if more infrastructure is built near the residential area as well as the removal of indigenous vegetation.							

The risk to the aesthetic value of the surrounding environment during the construction and operational phase of the FPSU are both rated to be **LOW-MEDIUM** before mitigation and **LOW** after mitigation. This impact is rated insignificant as the area that will be affected is small and with the proper mitigation measures applied will be insignificant to the aesthetic value of the surrounding environment.

Aesthetic Impacts						
	Constructional Phase		Operational Phase		Total Before Mitigation	Total After Mitigation
Impacts	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation		
1. Construction of FPSU	11,7	7,0	3,0	2,0	11,7	7,0
2. Location of FPSU	9,0	4,0	2,0	1,0	9,0	4,0
					10,3	5,5

It is foreseen that the aesthetic value of the area will only be affected on a small scale. It must be mentioned that utmost care should be taken when building the FPSU. The risk to the aesthetic value of the surrounding environment during the construction and operational phase of the FPSU are both rated to be **LOW-MEDIUM** before mitigation and **LOW** after mitigation.

2.5. Noise and Air Quality

Noise and air quality assessments are based upon what equipment will be used during a specific activity and the type of disturbance that will occur.

1. Generation of noise								
Impact	Increasing noise levels during the construction phase and operational phase.							
Description of impact	Noise levels will increase during the construction of building structures at the FPSU (excavation) and during the construction of the animal handling facility, storage shed and offices (clearance and building infrastructure). The operational phase will also create noise as a result of agricultural activities that will take place.							
Constructional Phase								
Before Mitigation	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	4	2	2,7	4	3	3,5	9,3
Mitigation	<ul style="list-style-type: none"> No loud music at any construction sites. Vehicles must be maintained in such a manner as to not cause excessive noise when operating them. Construction should take place between 8:00 and 17:00. The speed limit will be 40km/h on all roads running through and accessing the study area Equipment/ machinery to be used must comply with manufacturers specifications acceptable noise levels Maintain a complaints and grievance register and act promptly to complaints regarding noise 							
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	2	2,3	2	2	2	4,7
Operational Phase								
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	5	2	3	3	3	3	9,0
Mitigation	<ul style="list-style-type: none"> Ensure that the FPSU is adequately constructed to buffer noise coming from the FPSU facility. Also, maintain the FPSU in such a manner that it does not cause excessive noise. 							
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	2	3	1	2	2	2	2	4,0
Cumulative Impact	No cumulative impact can be foreseen.							

Ambient noise will temporarily be impacted upon due to the movement and activities of construction vehicles. Due to the temporary nature of these activities, it is not foreseen that these impacts will significantly alter the ambient noise of the overall environment. The risk is rated **LOW-MEDIUM** for both the constructional and operational phase before mitigation and **LOW** after mitigation. It is foreseen that this risk will not have a significant effect on the environment if mitigation measures are applied.

2. Air quality								
Impact	Dust and noxious fumes can be generated during the construction and operational phases.							
Description of impact	During the construction phase dust can be generated through heavy vehicles travelling regularly on gravel roads, excavation for trenches and construction of the FPSU. Petrochemical and exhaust emission from construction vehicle may also add to lowering of air quality. During the operational phase attention should be given to the generated odour through the remaining animal material from animal handling facility.							
Constructional Phase								
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	3	3	3	3	2	2,5	7,5
Mitigation	<ul style="list-style-type: none"> • Confine vehicle movements on unpaved roads to demarcated areas only • Ensure that site drainage carries spillage of clay or coal fines away from traffic movement zones • Spraying of clay or coal stockpiles if wind erosion is observed. • Set up water sprayers along haul roads to dampen dust and minimise dust loading to surrounding vegetation. • Speed control for all roads to limit dust generation. 							
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	2	1,7	3	2	2,5	4,2
Operational Phase								
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	3	3	2	2,7	2	2	2	5,3
Mitigation	<ul style="list-style-type: none"> • If animal waste is immediately removed from the facilities no unpleasant smells will occur. • The handling removal and disposal for animal waste products must be in terms of legal requirements and as per guidance through an approved operational Environmental Management Plan 							
	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Significance
	1	2	2	1,7	2	2	2	3,3
Cumulative Impact	Cumulative impacts can be foreseen when construction of the FPSU coincidence with the harvesting and ploughing seasons, with will contribute to the amount of dust in the air.							

Air quality will temporarily be impacted upon due to the movement and activities of construction vehicles. Due to the temporary nature of these activities, it is not foreseen that these impacts will significantly alter the air quality of the overall environment. Air quality and the risks involved will have a small to insignificant effect on the environment and people nearby. The only risk to air quality will be the cumulative impacts of excavating during windy conditions in combination with the harvesting and ploughing season on surrounding farms. The impacts for both the construction and operational phases score a **LOW-MEDIUM** rating before mitigation and **LOW** after mitigation measures have been implemented.

Noise and Air Quality Impacts						
	Constructional Phase		Operational Phase		Total Before Mitigation	Total After Mitigation
Impacts	Before Mitigation	After Mitigation	Before Mitigation	After Mitigation		
1. Generation of noise	9,3	4,7	9,0	4,0	9,2	4,3
2. Air quality	7,5	4,2	5,3	3,3	6,4	3,8
					7,8	4,0

The impacts the project development will have on the noise and air quality will be minimal and insignificant if mitigation measures are implemented. Taking all factors into consideration the risk for noise and air quality scores a **LOW-MODERATE** value before mitigation and **LOW** after mitigation.

3. Conclusion

Total Combined Impacts		
Factors	Impact before Mitigation	Impact after Mitigation
2.1 Fauna and Flora	4.9	2.22
2.2 Heritage	9,8	3,0
2.3 Water Resources	1,63	1.4
2.4 Aesthetics	10,3	5,5
2.5 Noise and Air Quality	7,8	4,0
Overall Impact	6.9	4,2

In conclusion it is foreseen that the project will not have a significant effect on the environment as a whole and scores an impact rating of **LOW-MODERATE (6.9)** before mitigation and **LOW (4,2)** after mitigation measures. Although the general impact ratings are low, certain individual risks need to be monitored constantly as it involves the greatest risk to the project and environment. These include the risks to which is the risk of aesthetics value which involves the construction of the FPSU [**10.3** (before mitigation) and **5.5** (after mitigation)] including the Heritage and Noise and Air quality when constructing the FPSU. Other than the above-mentioned individual risk, this project has no fatal flaws and considered to be of minimal impact to the environment.

The agricultural sector in South Africa plays a valuable role in ensuring the sustainable supply of food to our growing population and represents one of the main sources of revenue. As such the project plays its part in addressing issues of national concern in terms of sustainable agriculture. The activity will result in job creation, both permanent and temporary and will also aid in addressing food security.

Appendix G: Environmental Management Programme (EMPr)



ENVIRONMENTAL MANAGEMENT GROUP

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ENVIRONMENTAL MANAGEMENT PLAN:

For SEDIBA FARMER PRODUCTION SUPPORT UNIT



Report compiled by: Matshego Keikelame

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**ENVIRONMENTAL MANAGEMENT PLAN
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1. DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Aspect: Element of an organisation's activities, products or services that can interact with the environment.

Auditing: A systematic, documented, periodic and objective evaluation of how well the environmental management plan is being implemented and is performing with the aim of helping to safeguard the environment by: facilitating management control which would include meeting regulatory requirements. Results of the audit help the organisation to improve its environmental policies and management systems.

Built environment: Physical surroundings created by human activity, e.g. buildings, houses, roads, bridges and harbours.

Contamination: Polluting or making something impure.

Corrective (or remedial) action: Response required addressing an environmental problem that is in conflict with the requirements of the EMP. The need for corrective action may be determined through monitoring, audits or management review.

Degradation: The lowering of the quality of the environment through human activities, e.g. river degradation, soil degradation.

Ecology: The scientific study of the relationship between living things (animals, plants and humans) and their environment.

Ecosystem: The relationship and interaction between plants, animals and the non-living environment.

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Environmental Authorisation: an environmental authorisation is a written statement from the National Department of Environmental Affairs and Tourism, (N.DEAT) that records its approval of a planned undertaking to improve, upgrade or rehabilitate a section of road and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Hazardous waste: Waste, even in small amounts that can cause damage to plants, animals, their habitat and the well-being of human beings, e.g. waste from factories, detergents, pesticides, hydrocarbons, etc.

Land use: The use of land for human activities, e.g. residential, commercial, industrial use.

Mitigation: Measures designed to avoid, reduce or remedy adverse impacts

2. INTRODUCTION AND BACKGROUND

3. SCOPE

Environmental Management Group has been appointed by SMEC South Africa for the Department: Rural Development and Land Reform to conduct the Basic Assessment application of the Sediba Farmer Production Support Unit (FPSU).

This document is compiled in accordance with the Integrated Environmental Management (IEM) philosophy which aims to achieve a desirable balance between conservation and development (DEAT, 1992). IEM is a key instrument of the National Environmental Management Act [NEMA] (Act No. 107 of 1998). NEMA promotes the integrated environmental management of activities that may have a significant effect on the environment, while IEM prescribes a methodology for ensuring that environmental management principles are fully integrated into all stages of the development process. It advocates the use of several environmental management tools that are appropriate for the various levels of decision-making. One such tool is an EMP. The IEM guidelines encourage a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The basic principles underpinning IEM are that there be:

- informed decision-making;
- accountability for information on which decisions are taken;
- accountability for decisions taken;
- a broad meaning given to the term environment (i.e. one that includes physical, biological, social, economic, cultural, historical and political components);
- an open, participatory approach in the planning of proposals;
- consultation with interested and affected parties;
- due consideration of alternative options;
- an attempt to mitigate negative impacts and enhance positive aspects of proposals;
- an attempt to ensure that the 'social costs' of development proposals (those borne by society, rather than the developers) be outweighed by the 'social benefits' (benefits to society as a result of the actions of the developers);
- democratic regard for individual rights and obligations;
- compliance with these principles during all stages of the planning, implementation and decommissioning of the proposals (i.e. from 'cradle to grave'); and
- the opportunity for public and specialist input in the decision-making process.

The Environmental Impact Assessment Regulations that took effect in December 2014 regulate the procedures and criteria for the submission, processing, consideration and decision on applications for environmental authorisation of listed activities.

The general principles contained within this document apply to all **PLANNING PHASE, CONSTRUCTION PHASE, and OPERATIONAL PHASE** activities with regard to the development of 3 Khai Appel boreholes and related infrastructure.

4. SITE SPECIFIC INFORMATION

The proposed project is located at Sediba Village that is approximately 35km from Thaba Nchu in the North Eastern direction. Thaba Nchu is a town which is approximately 60km east of Bloemfontein that falls under the Mangaung Metro Municipality. The study area is on a ridge and the access gate to the proposed site is from the eastern direction. The site terrain comprises a typical crest with a flat area on the north western part of the site boundary and steep slopes towards the south eastern area (See Appendix A).

5. INTERPRETATIONS

The implementation of the EMP is not an additional or “add on” requirement. The EMP is legally binding through NEMA. The proponent is to ensure that through the project tender process the EMP forms part of the Project Contract Document for the proposed development to be incorporated in line with:

- a) General project specifications; and
- b) SANS 1200 A or SANS 1200 AA, as applicable.

6. ROLE PLAYERS AND RESPONSIBILITY MATRIX

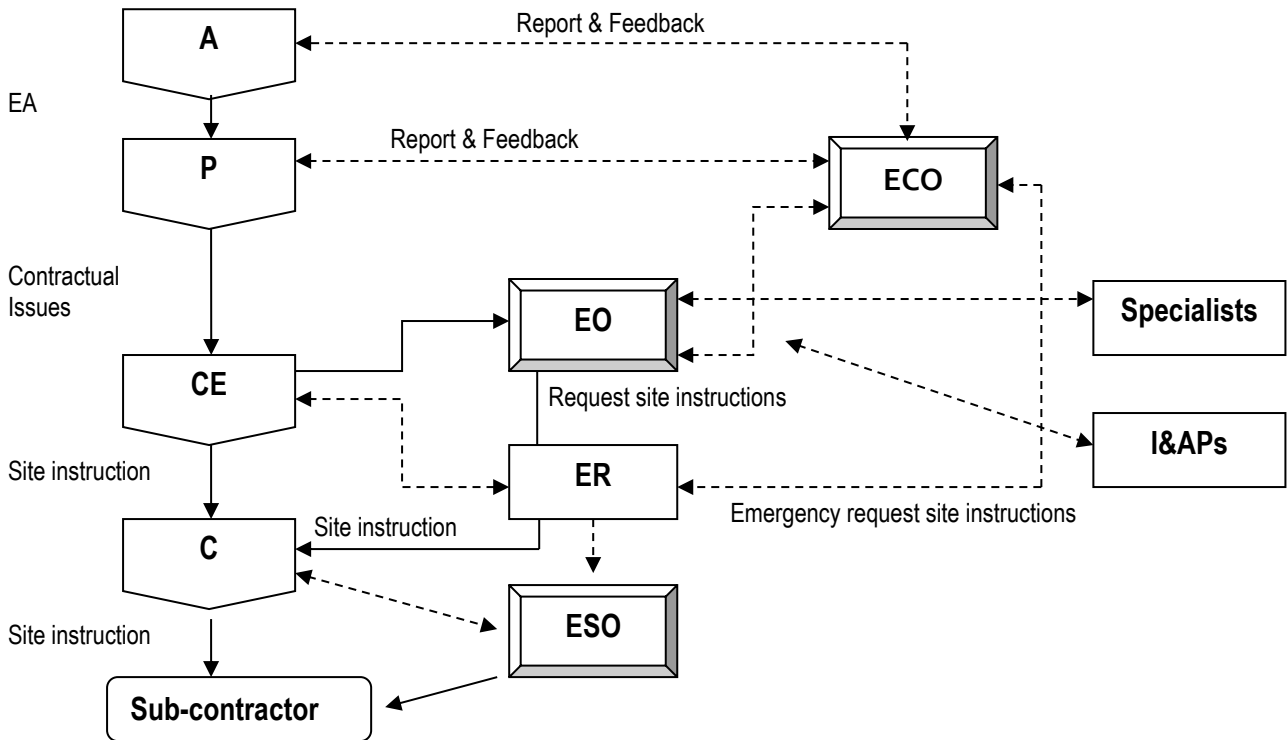
In order for the EMP to be successfully implemented, all the role players involved in the project need to co-operate. For this to happen, role players must clearly understand their roles and responsibilities in the project, must be professional, form respectful and transparent relationships, and maintain open lines of communication.

Table 1: Functions and Responsibilities of Project Team

KEY	FUNCTION	RESPONSIBILITY
P	Proponent	Proponent is ultimately accountable for ensuring compliance to the EMP. The ECO must be contracted by the Proponent (full time or part time depending on the size of the project) as an independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of the EMP for the project. The Proponent is further responsible for providing and giving mandate to enable the ECO to perform responsibilities. The developer must ensure that the ECO is integrated as part of the project team.
CE	Consulting Engineer	Contracted by the developer to design and specify the project engineering aspects. Generally, the engineer runs the works contract. The CE may also fulfil the role of Project Manager on the proponent’s behalf (See PM).
PM	Project Manager	The Project Manager has over-all responsibility for managing the project, contractors, and consultants and for ensuring that the environmental management requirements are met. The CE may also act as the PM. All decisions regarding environmental procedures must be approved by the PM. The PM has the authority to stop any decommissioning activity in contravention of the EMP in accordance with an agreed warning procedure.
ER	Engineers Representative	The consulting engineer’s representative on site. Has the power/mandate to issue site instructions and in some instances, variation orders to the contractor, following request by the EO or ECO. The ER oversees site works, liaison with Contractor and ECO.
EO/EM	Environmental Officer / Environmental Manager	Appointed by the Consulting Engineers as their environmental representative on site. The EO is not independent but must rather act on behalf of the consulting engineers with the mandate to enforce compliance under the project contract, which must include the EMP. The EO has the directive to issue non-conformance and hazard certificates. Further, in terms of accepted industry practice the EO could issue the equivalent of a “cease works” instruction only in exceptional circumstances where serious environmental harm has been or is about to be caused i.e. in cases of extreme urgency and then only when the ER is absent. The EO must form part of the project team and be involved in all aspects of project planning that can influence environmental conditions on the site. On certain types of projects, such as linear developments (fences, pipelines, etc), the EO must also be the liaison between the contractor and landowners. The EO must attend relevant project meetings, conduct daily inspections to monitor compliance with the EMP, and be responsible for providing reports and feedback on potential environmental problems associated with the development to the project team and ECO. The EO must convey the contents of this EMP to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct an induction and an environmental awareness training session prior to site handover to all

		<p>contractors and their workforce.</p> <p>The EO must be suitably experienced with the relevant qualifications and preferably competent in construction related methods and practices.</p>
ECO	Environmental Control Officer	<p>An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of Environmental Authorisations (EA's), and the EMP for the project. The ECO must be on site prior to any site establishment and must endeavour to form an integral part of the project team.</p> <p>The ECO must be proactive and have access to specialist expertise as and when required, these include botanists, ecologists, etc. Further, the ECO must also have access to expertise such as game capture, snake catching, etc.</p> <p>The ECO must conduct audits on compliance to relevant environmental legislation, conditions of EA, and the EMP for the project. The size and sensitivity of the development, based on the EIA, will determine the frequency at which the ECO will be required to conduct audits. (A minimum of a monthly site inspection must be undertaken).</p> <p>The ECO must be the liaison between the relevant authorities and the project team. The ECO must communicate and inform the developer and consulting engineers of any changes to environmental conditions as required by relevant authoritative bodies. The ECO must ensure that the registration and updating of all relevant EMP documentation is carried out.</p> <p>The ECO must be suitably experienced with the relevant environmental management qualifications and preferably competent in construction related methods and practices. The ECO must handle information received from whistle blowers as confidential and must address and report these incidences to the relevant Authority as soon as possible.</p> <p>On small projects, where no EO is appointed, the ECO must convey the contents of this EMP to the Contractor site team and discuss the contents in detail with the Contractor as well as undertake to conduct an induction and an environmental awareness training session prior to site handover to all contractors and their workforce.</p>
C	Contractor	<p>The principle contractor, hereafter known as the 'Contractor', is responsible for implementation and compliance with the requirements of the EMP and conditions of the EA's, contract and relevant environmental legislation. The Contractor must ensure that all sub-contractors have a copy of and are fully aware of the content and requirements of this EMP.</p> <p>The contractor is required, where specified, to provide Method Statements setting out in detail how the management actions contained in the EMP will be implemented.</p>
ESO	Environmental Site Officer	<p>The ESO is employed by the Contractor as his/her environmental representative to monitor, review and verify compliance with the EMP by the contractor. This is not an independent appointment; rather the ESO must be a respected member of the contractor's management team.</p> <p>Dependent on the size of the development the ESO must be on site one week prior to the commencement of construction. The ESO must ensure that he/she is involved at all phases of the construction (from site clearance to rehabilitation).</p>
A	Lead Authority	<p>The authorities are the relevant environmental department that has issued the Environmental Authorisation. The authorities are responsible for ensuring that the monitoring of the EMP and other authorisation documentation is carried out, this will be achieved by reviewing audit reports submitted by the ECO and conducting regular site visits.</p>
OA	Other Authorities	<p>Other authorities are those that may be involved in the approval process of an EMP. Their involvement may include reviewing EMP's to ensure the accuracy of the information relevant to their specific mandate.</p> <p>Other authorities may be involved in the development, review or implementation of an EMP.</p> <p>For example, if a specific development requires a water use licence for the relevant national authority then that authority should review and comment on the content of the particular section pertaining to that mandate.</p>
EAP	Environmental Assessment Practitioner	<p>The definition of an environmental assessment practitioner in Section 1 of NEMA is <i>"the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental instruments introduced through regulations"</i>.</p>

7. RECOMMENDED FORMAL ENVIRONMENTAL COMMUNICATION CHANNELS



8. OBJECTIVES OF THE EMP

The specific objectives of this EMP are to:

- To provide explicit operational guidelines and environmental monitoring requirements during the construction phases so that activities are done in environmentally responsible and sustainable manner.
- To benefit the host communities, minimise the impacts on the environment and to ensure the health and safety of the community by creating a development that eliminates unacceptable health hazards and ensures public and animal safety.
- To enable the Department: Rural Development and Land Reform and its contractors to use resources efficiently and effectively during the project lifecycle in order to reduce wastage and thereby reduce associated negative environmental impacts. In addition, the aim is also to handle waste streams responsibly and apply the 'reduce, re-use and recycle' principle, wherever possible
- To leave areas disturbed by construction in a rehabilitated, stable, non-polluting and tidy condition.

9. ACTIVITIES COVERED BY THE EMP

9.1 PLANNING STAGE

The project planning stage consists of pumphouse structure designing and water pipeline layout, surveying and ensuring that all plans and required contracts, permits/licenses and agreements are in place.

9.2 CONSTRUCTION PHASE

The construction phase will start after the relevant authorizations are granted. The construction phase involves earthwork, structure development, service provision and finishing. The construction phase will start after the relevant authorizations are granted. This phase includes:

- Establishment of construction camp and equipment yards
- Transportation of construction material and other resource inputs,
- Use of heavy construction equipment on site.
- Storage of input materials and disposal of waste generated
- Construction of building structures
- Excavation of trenches for the construction of the pipeline
- Rehabilitation of the disturbed areas through:
- Demolition/Removal of any unwanted construction fences and infrastructure
- Top-soiling and re-vegetation of areas disturbed by construction

10. IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- storm water discharge
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impacts from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscape
- Soil erosion
- Effect on the built environment

11. LEGAL REQUIREMENTS

(a) General

Construction activities will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by Construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

(b) Statutory and other applicable legislation

The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

12. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

(a) Appointment of an Environmental Site Officer (ESO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the ESO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the ESO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The ESO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the ESO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

(b) Administration

Before the contractor begins each construction activities the ESO shall give to the engineer a written statement setting out the following:

- The type of construction activity.
- Locality where the activity will take place.
- Identification of the environmental aspects and impacts that might result from the activity.
- Methodology for impact prevention for each activity or aspect.
- Methodology for impact containment for each activity or aspect.
- Emergency/disaster incident and reaction procedures.
- Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the ESO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

(c) Communication procedures on site

Each of the books described below must be available in duplicate, with copies for the RE and ESA or alternatively an agreement could be reached to use a single system. These books should be available to the authorities for inspection or on request. Contractor's meeting minutes must reflect environmental queries, agreed actions and dates of eventual compliance. These minutes form part of the official environmental record.

i. Site Instruction Entries

The Site Instruction Book entries will be used for the recording of general site instructions as they relate to the works on site. It will also be used for the issuing of stop work orders for the purposes of immediately halting any particular activities of the contractor in lieu of the environmental risk that they may pose.

ii. ESA Diary Entries

The purpose of these entries will be to record the comments of the ESA as they relate to activities on the site.

13. TRAINING

The designated environmental site officer (ESO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

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

- The importance of conformance with all environmental policies;
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff, the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he intends concluding his environmental training obligations.

14. RECORD KEEPING

All records related to the implementation of this management plan (e.g. site instruction book, ESA diary, method statements) must be kept together in an office where it is safe and can be retrieved easily. These records should be kept for a minimum of two years and should at any time be available for scrutiny by any relevant authorities.

It is recommended that photographs are taken of the site prior to, during and immediately after construction as a visual reference. These photographs should be stored with other records related to this EMP.

The day-to-day monitoring and verification that the Construction EMP is being adhered to shall be undertaken by the Contractor and the DEO. Monitoring required on a regular basis is shown in the environmental monitoring **table A**.

Table A:

ENVIRONMENTAL CONTROL CHECKLIST

No.	Requirements/Conditions	Responsibility	Comment/Mitigation measures
General Administration			
1.1	Environmental induction/ awareness training program	Contractors	
1.2	Environmental Incidents and Accidents Register		
1.3	Environmental Complaints Register/IAP register		
1.4	Environmental Emergency Procedures		
1.5	Fire prevention and management plan		
1.6	Hazardous waste remover/disposal facility		
1.7	Organogram of contractor's management structure		
1.8	Agreement with toilet service provider		
Waste Management			
2.1	Suitable sanitation facilities to be provided	Contractors	
2.2	Suitable waste receptacles provided		
2.3	Prohibition of littering		
2.4	General waste disposal		
2.5	Suitable storage of hazardous waste		
2.6	Vehicles/Plant serviced within designated areas on site		
2.7	Cement mixed in allocated areas		
2.8	Chemical spills contained and cleared up		
Land Clearance and Excavations			
3.1	Limit removal of vegetation to require areas only	Contractors	
3.2	Workers to work in construction footprint only		
3.3	No gathering of plants or poaching of animals		
3.4	Top soil removal and storage		

3.5	Discovery of archeological and cultural sites/graves		
3.6	Trenches and excavations		
3.7	Rehabilitation of disturbed areas		
Water Related Issues			
4.1	Sources of water/ water abstraction		
4.2	River crossings		
4.3	Appropriate management of storm water runoff onsite		
4.4	No polluted water discharges		
4.5	Removal of contaminated soils		
4.6	Water conservation techniques.		
4.7	Avoid swimming and personal ablutions in watercourses		
4.8	Prevention of pollution entering water course		
Social and Cultural			
5.1	Prevent casual access to construction areas	Contractors	
5.2	No loud music at site		
5.3	Speed limit on site		
5.4	Communication & compensation for damage to property		
5.5	Limit construction workers access to private property		
5.6	Provision of suitable eating areas for employees		
Housekeeping and Aesthetics			
6.1	Damage to natural environment to be minimized	Contractors	
6.2	Suitable access roads and facilities		
6.3	Adequate storage facilities for materials		
6.4	Suitable facilities for hazardous materials		
6.5	Adequate housekeeping practices		
6.6	Appropriate signs displayed		
Specific Issues			
7.1	Dust management on site and air quality issues	Contractors	
7.2	Equipment and Machinery maintenance		
7.3	Borrow Areas		

Rehabilitation			
8.1	Suitable rehabilitation for excavations, trenches and vegetation clearance.	Contractors	
8.2	All construction residue removed after construction		
8.3	Scarify areas compacted by vehicle movements		
8.4	Eradication of exotic species in construction footprint		
8.5	Compliance with Environmental Specifications for rehabilitation		
Other			

The contractor shall establish an internal review procedure to monitor the progress and implementation of the Construction EMP. Where necessary, and upon the recommendation of the ECO, procedures that require modification shall be changed to improve the efficiency of the Construction EMP. Any slight changes or adjustments to the Construction EMP shall be discussed with the ECO and documented. Significant modifications to the Construction EMP shall however need to be approved by Dept of Environmental Affairs before the changes or adjustments to the EMP are implemented.

The ECO shall visit and audit the site once a month to ensure that correct operational procedures are being implemented and that the Contractor is complying with the environmental specifications in the Construction EMP. Additional site inspections by the ECO may be needed during the initial and final stages of the project. The ECO shall address any queries to the contractor and the Department: Rural Development and Land Reform. If the queries cannot be resolved at this level if necessary, the Department of Environmental Affairs shall be involved.

At the conclusion of the project an environmental performance report shall be compiled and submitted to Department of Environmental Affairs. This report shall be compiled by the ECO, in collaboration with the Contractor and the Department: Rural Development and Land Reform and the project managers. It shall, as a minimum, outline the implementation of the Construction EMP, and highlight any problems and issues that arose during the construction period to report, on a formal basis, the lessons learned from the project.

15. COMPLIANCE AND PENALTIES

The contractor shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and an oral report given at the monthly site meetings.

Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed therefore any avoidable non-compliance, dependant on severity, shall be considered sufficient grounds for contact to be made with relevant provincial or national authorities.

The engineer's decision with regard to what is considered a violation, its seriousness and the action to be taken against the contractor shall be final. Failure to redress the cause shall be reported to the relevant authority. The responsible provincial or national authorities shall ensure compliance and impose penalties relevant to the transgression as allowed for within its statutory powers.

16. REPORT AVAILABILITY

Copies of this EMP shall be kept at the construction site office and will be accessible to all senior contract personnel. All senior personnel working on the project shall be required to familiarise themselves with the contents of this document.

17. ENVIRONMENTAL MITIGATION SPECIFICATIONS FOR IMPACTS

17.1 SOCIAL ENVIRONMENTAL ISSUES

It is important to minimize any negative perception, by taking proactive measures to prevent any social conflicts or social gaps and to develop a positive attitude within the community of the project. The following management strategies are to be implemented:

- Transparent fair recruitment and procurement practices. The contractor chosen should maximize the involvement of local communities in construction and support activities, to the extent possible, based on available skill levels. Whenever possible, training programmes that will benefit both construction stage skills requirements and long-term employment demand should be developed.
- The recruitment selection process should seek to promote gender equality and the employment of women wherever possible.
- Priority should be given to the local suppliers of goods and services, which meet requirements of project procurement as far as is possible. In order to optimize the opportunities for local businesses to supply goods and services to the project, the contractor will do a survey of the capabilities of the goods and services that are locally available that are of an acceptable standard and quality and a survey of the capabilities of local construction companies and identify opportunities for local suppliers.
- A public complaint register and system to ensure that community complaints clearly investigated and adequate remedial taken should be instituted.
- Adequate notification should be done to people residing close to where construction activities are taking place especially if they are to be affected by them. In addition, there should be a system of compensation for any damages to infrastructure that may occur.
- Each worker should be required to abide by a Code of Conduct which will limit unsavoury activities in local towns and communities and restrict certain behaviours in the work sites and accommodation.

17.2 FENCING

- Fencing of the campsite and construction area (if applicable) shall be suitably secured to prohibit access by livestock and local fauna.
- No unauthorised pedestrian or vehicular access shall be allowed into fenced off-limits areas.
- Fencing shall be kept neat at all times. The contractor shall be responsible for the maintenance of all fences.
- If temporary fencing is removed temporarily for the execution of work, the contractor shall reinstate it as soon as practicable.
- Breaches in the fencing must be repaired immediately.
- The purpose of the fenced areas is to control construction and personnel activity within the designated areas, and limit unauthorised access.
- No fences or gates that provide access to the site/construction campsite may be cut, lowered, removed or damaged in any way.
- Leave private gates, as they are found (open or closed). Gates to adjacent properties or onto public roads must be closed at all times.
- Open gates must be guarded to prevent animals from straying onto adjacent camps, roads or properties.

17.3 CLEARING AND GRUBBING

- Contractor shall at all times carefully consider what machinery is appropriate to the task while minimising the extent of environmental damage.
- Topsoil shall be cleared of woody vegetation and specifically exotic vegetation before ripping and removing.
- The topsoil is regarded as the top 300mm of the soil profile irrespective of the fertility appearance.
- Topsoil is to be stripped when it is in as dry a condition as possible in order to prevent compaction.
- The topsoil, including the existing grass cover is to be shallowly ripped (only the depth of the topsoil) before removal. This is to ensure that organic plant material, and the natural seed base is included in the stripping process.

- Soil stockpiles shall not be higher than 2.5m or stored for a period longer than one year. The slopes of soil stockpiles shall not be steeper than 1 vertical to 2.5 horizontal.
- No vehicles shall be allowed access onto the stockpiles after they have been placed.
- Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material, which may inhibit the later growth of vegetation.
- The contractor shall apply soil conservation measures to the stockpiles to prevent erosion. This can include the use of erosion control fabric or grass seeding.
- If at any stage of the clearing operations archaeological artefacts are unearthed or identified the relevant organisations are to be contacted immediately to conduct a thorough scientific investigation of the finds.
- The works shall be cleared of alien vegetation as identified by the ESA. An effort must be made to remove the entire root system where after the plant shall be left to dry out on a hard surface that will not facilitate the germination of seed.
- If applicable, it must be ascertained (in writing) from the landowner concerned whether he wishes to retain the cleared bush, trees and shrubs. If not, they must be removed to the satisfaction of the owner, bearing in mind that it does not contravene waste disposal regulations.
- Burning of any material is not permitted under ANY circumstances.

17.4 ESTABLISHING OFFICE / CAMP SITES

- The area chosen for these purposes shall be the minimum reasonably required and which will involve the least disturbance to vegetation. No trees or shrubs will be felled or damaged for the purpose of obtaining firewood, unless agreed to by the landowner/tenant.
- Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a fire-break shall be cleared around the perimeter of the camp and office sites.
- Lighting and noise disturbance or any other form of disturbance that may have an effect on the landowner/tenant/persons lawfully living in the vicinity shall be kept to a minimum.
- Chemical toilet facilities or other approved toilet facilities should be sited in such a way that they do not cause water or other pollution. The use of existing facilities must take place in consultation with the landowner/tenant.
- In cases where facilities are linked to existing sewerage structures, all necessary regulatory requirements concerning construction and maintenance should be adhered to. The facilities must comply with water act requirements.
- Adequate signage must be provided and the area must be appropriated secured.
- Adequate parking and security should be provided at the campsites.

17.5 AIR QUALITY

The main sources of impact on air quality are mobilization of equipment, land clearing and earthworks. To ensure air quality characteristics of the project area are maintained near the baseline conditions during of the construction stage, the following measures shall be done:

- Regular inspection and scheduled maintenance of all equipment to ensure that construction vehicles are in good condition, are utilising fuel efficiently and do not smoke.
- Periodically watering the bare surfaces and excavations during construction to keep the dust level down.
- Slowing down the vehicles carrying the construction materials to reduce dust generation.
- Properly wrapping the material truck containers with cover to avoid dust spreads on windy days and prohibiting transport of over loaded trucks.
- Providing and using the safety equipment such as dust mask, noise cover for employees who work near the dusty location such as the heavy equipment operators

- Optimization of working schedule and work to help to minimize several material vehicle mobilization trips.

17.6 NOISE AND VIBRATIONS

The primary noise sources will be vehicles and equipment utilized during the construction stage including graders, bulldozers, general purpose vehicles, etc. To manage the impact the following will be done:

- Working schedule for the activities with high noise level will be arranged between 08:00 AM to 17:00 PM.
- Only well-maintained vehicles and equipment should be operated onsite and all machinery should be serviced regularly during the construction stage.
- Avoiding unnecessary simultaneous noisy activities.
- No amplified music shall be allowed at the site.
- Selecting 'quiet' construction equipment and working method and avoiding unnecessary revving and hooting.
- Providing ear protection for activities that are likely to create noise in order to protect worker's health and safety.

17.7 EROSION CONTROL

Construction activities will require the removal of vegetation cover, potentially resulting in soil erosion and subsequent impacts on surface water quality due to uncontrolled rainwater run-off or mechanical/wind action. The following measures are necessary to minimise impacts.

- Clearance of vegetation should be restricted to the absolute minimum required to facilitate construction activities to proceed. No protected plant species shall be removed without a permit. Disturbance of topsoil and vegetation rootstock must be minimized as far as possible.
- Appropriate drainage systems will be built to accommodate the surface water movement from the rain and wind.
- Construction activities shall take place only within the approved demarcated area. Appropriate drainage facilities must be constructed to make sure water runs smoothly downstream.
- Top soil layer will be kept to rehabilitate and will be adequately stored to protect it from erosion.
- Areas where construction has been finished should immediately be re-vegetated.

17.8 CONTAMINATION OF LAND

Land contamination may occur as a result of fuel and oil leaks or spills and/or poor fuel, chemical and waste storage.

- The storage areas shall be securely fenced and secured and appropriately marked to indicate the goods in the storage. Material Safety Data Sheets should be kept for all hazardous materials on site.
- All hazardous substances and stocks such as diesel, oils, detergents, etc., shall be stored in areas with impervious flooring such as concrete and properly bunded. Drip pans, other impervious surface, shall be installed in such storage areas with a view to prevent soil and water pollution.
- Dedicated impervious areas should be designated for concrete mixing and the spillage from concrete mixed should be cleaned immediately.
- The waste management strategy on the construction site should be hinged on the waste hierarchy model of 'reduce, reuse and recycle' waste in order to reduce the ultimate impact on the environment.

- All used oils, grease or hydraulic fluids shall be placed in appropriate impervious containers and these receptacles will be removed from the site on a regular basis for disposal at a licensed disposal facility or sent for recycling/reuse with a registered facility.
- Residues from machinery maintenance and other sources contaminated with hazardous waste should be stored in proper containers that avoid seepage to ground.
- Spills should be cleaned up immediately by removing the spillage together with the polluted soil and by disposing of them at a recognised facility. In areas where the spills are some, an absorbent agent can be used and the area treated in situ.
- Adequate waste receptacles shall be made available and all waste shall be adequately stored so that it does not pose a pollution risk. General waste is to be disposed of through the municipal service. Any other waste will be disposed of through only licensed waste disposal facilities.

17.9 SURFACE WATER QUALITY

Poor chemical storage and poor waste management practices may lead to the contamination of water sources. Sewage and sanitary effluent has the potential to adversely affect the quality of receiving water bodies unless properly managed. To eliminate the risk of contamination, the following measures have to be instituted.

- Chemical toilets shall be used during the construction stage and a registered service provider shall be contracted to service the toilets regularly.
- Suitable covered receptacles for waste shall be available at all times and conveniently placed for the disposal of waste.
- Warehouse floors and workshop areas should be of concrete. Drainage from warehouse is collected separately with trap for oil or fuels oil. Trap containers when full will be removed, properly stored and sent out to oil waste management company.
- Refuelling, fuel loading/unloading, oil change-outs, waste storage and disposal activities must be carefully managed to prevent spillages.
- Adequate toilets must be available on site for use by construction staff at all times. The digging of pit latrines for this purpose is not allowed under any circumstances. Should chemical toilets be used, an appropriate contractor must be employed to service these facilities on an ongoing basis.
- Spills or overflows from chemical or other toilets used by construction staff must be dealt with by a sanitation expert immediately.
- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and treated prior to discharge or removed from the site for appropriate disposal at a recognised facility.

17.10 WATER USAGE

- Any water that is used which does not emanate from Municipality supplies must be registered and authorised by the Department of Water Affairs prior to usage commencement.
- The contractor shall promote responsible water use by all personnel.
- The contractor is requested to notify the Department of Water Affairs in writing of the proposed commencement of construction and provide the department with a construction programme, prior to any work commencing in proximity of a river or riverbank.
- Extreme caution shall be taken during construction owing to the sensitive natural spring areas. The ESA shall assess any preventable damage caused by the contractor and prescribe rehabilitation measures to be completed at the contractor's expense.
- No construction materials or pollutants, such as cement, shall be allowed to fall/ flow into the natural spring areas.
- No washing of clothes or vehicles will be allowed in the natural spring areas.

- The effluent from this facility (grey water) will drain into a French drain system to be constructed for this purpose.
- Only environmentally friendly bio-degradable detergents will be allowed in the construction camp.
- Any activity which brings about the run-off of sediments into any watercourse shall be forbidden.
- Any activity which adversely affects aquatic fauna and flora shall be forbidden
- The flow of the river may not be affected during construction and under no circumstances will the stream be blocked.

17.11 WATER RESOURCES MANAGEMENT PLAN

- The storm water management needs to be maintained to ensure natural flow of water will not be disturbed.
- The need to be clearly demarcated prior to construction to ensure no movement occurs within the existing concrete canal.
- Drip trays needs to be placed under stationary vehicles during construction, to prevent contamination of soil water.
- The existing irrigation concrete canal should be treated as no-go areas as far as possible and no construction activities, material or waste should occur or be placed in these areas.
- Adequate monitoring of weed establishment and their continued eradication must be maintained.
- Monitoring of construction including weed establishment and erosion should take place and should also specifically include any impacts or alterations to the surrounding depression of the irrigation canal.

17.12 FAUNA AND FLORA

Fauna and flora are negatively impacted by the clearance of vegetation, noise from construction activities (disturbance) and gathering/ hunting of flora and fauna by workers. The following measures are necessary to mitigate impacts.

- Clearance of vegetation should be restricted to the absolute minimum required to facilitate access and undertaken construction activities.
- Topsoil shall be removed and kept for use during rehabilitation.
- The Contractor shall be responsible for the removal of alien vegetation within areas affected by the construction activities including cleared ground and topsoil stockpiles. Equipment used should be regularly washed down to avoid transporting seeds (invasive species) or plant diseases.
- No protected or endangered plant species shall be removed without a permit or license.
- No trees or shrubs will be felled or damaged for the purpose of obtaining firewood, unless agreed to by the landowner/tenant.
- The rehabilitation activities require the re-planting of vegetation in any areas cleared for the construction activities. This will promote soil stability, improve the visual environment and provide faunal habitat.
- Hunting/gathering by construction workers must not be permitted.
- Localized habitat features such as nests, dens or burrow sites should be avoided as much as possible. In addition, care should be taken in working in areas of active nesting, spawning, and feeding areas.

17.13 SAFETY

- The Contractor shall be responsible for the protection of the public and public property from any dangers associated with the construction and operation of the road activities,
- All work should be handled in accordance with the Occupational Health and Safety Act and adequate safety precautions taken and suitable sanitation facilities provided in line with the

requirements of the act. It is the duty of the contractor to ensure that the all protective measures against accidents are done.

- Any works/activities which may pose a hazard to humans and/or domestic animals are to be protected or cordoned off and, if appropriate, warning signage erected.
- Appropriate security is to be provided at the site to protect equipment and provide for a safe construction site and work areas.
- Any damage caused as a result of the construction activities shall be repaired to the satisfaction of the project manager and owner.

17.14 HISTORICAL ARCHEOLOGICAL AND HERITAGE IMPACTS

- Should any cultural or archaeological artefacts be found during operational activities, operations must cease immediately and the area secured and SAPS, and the South African Heritage Resources Agency and other relevant authorities informed immediately.
- No site of archaeological or historical significance may be moved without a permit from the SAHRA. Any permitted removal of any archaeological or historical matter must be done under the strict supervision of a qualified registered archaeologist.

18. REHABILITATION

- On completion of operations, all buildings, structures or objects on the camp/office site shall be demolished and removed.
- Where office/camp sites have been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.
- On completion of operations, the areas shall be cleared of any contaminated soil, which must be dumped as per the waste management plan or at the local registered landfill site.
- All infrastructure, equipment, plant, temporary housing and roads and other items used during the construction period will be removed from the site.
- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the area and disposed of at a registered waste disposal facility. It will not be permitted to be buried or burned on the site.
- Disturbed areas should be left in a safe and stable manner. Preventative measures may be necessary to construct adequate drainage structures including ditches and other structures to facilitate the movement of surface water.
- Photographs of the camp and office sites, before and during the construction and after rehabilitation, shall be taken at selected fixed points and kept on record.
- The disturbed surfaces shall then be ripped or ploughed and the topsoil previously stored shall be spread evenly to its original depth over the whole area. The area shall then be fertilised if necessary (based on a soil analysis).
- The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, there might be need that the soil be analysed and any deleterious effects on the soil arising from the construction operation be corrected and the area be seeded with a seed mix to his or her specification.

19. HANDLING OF EMERGENCIES

- The contractor should identify all situations that can lead to emergency situations and provide response strategies. The situations should include fire and major chemical spill.

- Contact details of all departments/service providers to be contacted in case of an emergency shall be made available to employees.
- Equipment for dealing with emergencies such as spill kits, firefighting equipment, first aid boxes etc shall be made available and personnel properly trained in its use.
- All staff on site should be trained on how to handle emergency situations and emergency drills/ rehearsals should be conducted periodically to ensure that staff prepared.

20. METHOD STATEMENTS

The Contractor shall submit written Method Statements to for all environmentally sensitive aspects of the work. It should be noted that Method Statements must contain sufficient information and detail to mitigate the potential impacts of the works on the environment. The Contractor will also need to thoroughly understand what is required of him / her in order to undertake the works. Work shall not commence until Method Statements have been put in place.

Appendix A: Locality Map

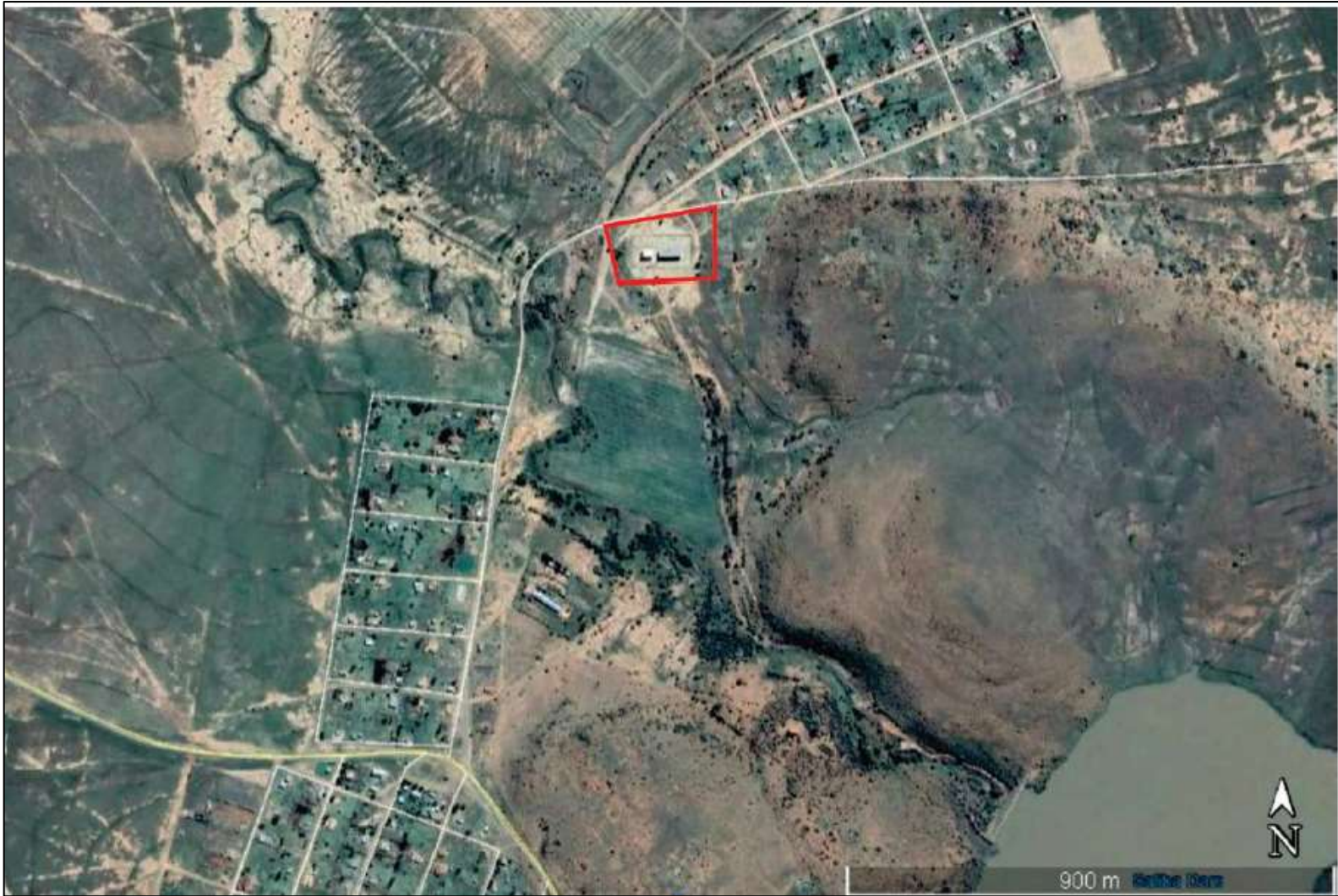


Figure 1: FPSU Locality Map

Appendix H: Details of EAP and expertise



ENVIRONMENTAL MANAGEMENT GROUP

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CURRICULUM VITAE

Salmon E. van Rooyen (Sampie)

Director Managing & Environmental Assessment Practitioner & Ecologist

(MSc. Environmental Science; SACNASP-Cand.Sci.Nat.116554; IAIA Reg No. 5901; EAPASA Reg No. 2019/309)

Personal Information

ID: 9205095047086
Nationality: South African
Gender: Male
Health: Excellent
Vehicle License: Code A&B
Language: English/Afrikaans
Contact number: 083 678 3032
Email: svr@envmgp.com

Skills and Responsibilities

- Use of Geographical Information Systems;
- Conduct Environmental Impact Assessments and other Environmental Technical Investigations;
- Apply and obtain, water licenses, mining permits and environmental authorisations for clients;
- Use different GIS datasets in order to create new information or investigate patterns for projects;
- Conduct environmental compliance and other environmental audits;
- Microsoft Office and Planet GIS;
- Project Management;
- Biodiversity Assessments;
- Agricultural advisory.

Professional Experience

Date	5/2017 - Present
Organisation	Environmental Management Group
Position	Director; EAP; Ecologist
Date	8/ 2016 - 5/2017
Organisation	Terra Works Environmental
Position	Environmental scientist/ Office Manager
Date	1/2016 - 8/2016
Organisation	Bokamoso Environmental
Position	Environmental Specialist (Fauna and Flora), Water Use License Application Consultant, General Environmental Consultant.
Responsibilities	Conducting specialist Faunal and Flora assessments. Applying for Water Use Licenses. GIS Mapping. Environmental Impact Assessments.



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Date	1/2015 – 6/2015
Organisation	Agreenco
Position	Flora and Fauna Specialist
Responsibilities	Rehabilitation and Alien eradication on game farm in the Magaliesburg region, Rustenburg.

Date	2014 - 2015
Organisation	NWU Potchefstroom
Position	Practical demonstrator
Responsibilities	Responsible for laboratory preparation for NWU and UNISA Botany practical sessions, assistant facilitator of the practical syllabus, invigilating practical exams.

Date	1/2015 – 11/2015
Organisation	NWU Potchefstroom
Position	Practical Post-Graduate Student Assistant
Responsibilities	Assisting Post-Graduate students in veld surveying methods and technologies.

Date	1/2014 – 6/2014
Organisation	E-Tek Consultants
Position	Contract, Monitoring specialist on De Beers Mining, Kimberley.
Responsibilities	Monitoring rehabilitated tailings on De Beers mines.

Date	2008 - 2016
Organisation	Monswario Boerdery
Position	Assistant Farm Manager
Responsibilities	Farming experience of Bonsmara cattle and Meat-master sheep, as well as veld management practices.

Education

Institution	Degree(s) or Diploma(s) obtained
North West University Potchefstroom 2011 – 2013	BSc. Environmental and Biological Sciences and Tourism
North West University Potchefstroom 2014 – 2015	Hons BSc. Environmental Sciences (<i>Ecology: Ecological Remediation & Sustainable development</i>)
North West University Potchefstroom 2015 – 2016	MSc BSc. Environmental Sciences (<i>Ecological Remediation & Sustainable Management</i>)
North West University Potchefstroom 2015	Short Course at CEM (Centre for Environmental Management) in Basic Principles of Ecological Rehabilitation and Mine closure.



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Research and Conferences

Masters degree research project (2015 January-2016 November)

Ecological Remediation and Sustainable Management

Supervisors: Prof. Klaus Kellner and Dr. Niels Dreber

Title: Composition and structure of woody vegetation in thickened and controlled bushveld savanna in the Molopo, South Africa

Honours degree research project (2014 January-2014 November)

Ecological Remediation and Sustainable Management

Supervisors: Prof. Klaus Kellner and Dr. Niels Dreber

Title: Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa

Conference presentations (2014-2015)

- Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa. Biological Sciences Symposium, Potchefstroom, 2014. Presentation.
- Comparison of plant diversity of shrub thickened and chemically controlled savannas in the Molopo district, North-West Province, South Africa. Poster presentation: Arid-Zone Ecology and Thicket Fusion Form in 2014.
- Attending the Third Annual LaRSSA Conference (Land Rehabilitation Society of Southern Africa) (2015).

Experience of Academic Introductory Modules

Introduction to Environmental Management

Introduction to Landscape Ecology

Conservation Ecology

Introduction to GIS Applications

Restoration of degraded ecosystems

Microbial Ecology

Short Course at CEM (Centre for Environmental Management) in Basic Principles of Ecological Rehabilitation and Mine closure 28 September – 2 October 2015

Publications

DREBER, N., VAN ROOYEN, S.E. AND KELLNER, K. 2017. Relationship of plant diversity and bush cover in rangelands of a semi-arid Kalahari savannah, South Africa. John Wiley & Sons *African Journal of Ecology*



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Environmental Impact Assessment Projects

Type	Client	Project	Role
Waste	Metsimaholo Local Municipality	Scoping/EIA; WULA application for the development of a new landfill site in Sasolburg	Lead EAP
	Joe Morolong Local Municipality	Scoping/EIA application for the development of a new landfill site in Hotazel	Lead EAP
Mining Permits or Rights	Danoher Contracting (PTY) Ltd	Mining Right application for a gravel BP in Bloemfontein	
	Michael Gutter	Mining Permit in Theunissen, Free State Province	Lead EAP
	Department of Rural Development and Land Reform	Mining Permit application for a sandstone Quarry in Zastron	Lead EAP
Road Construction	Free State Department of Police, Roads and Transport	BAR/IWUL/Mining Permit applications/ECO for the Deneysville - Jim Fouché road rehabilitation	Review of reports
	Free State Department of Police, Roads and Transport	BAR/IWUL/Mining Permit applications/ECO for the Deneysville - Heilbron road upgrading	Review of reports
	Free State Department of Police, Roads and Transport	BAR/IWUL applications/ECO for the Schonkenville - Koppies road upgrading	Review of reports
	SANRAL	BAR/IWUL/ECO applications for the N1 Section 16 road upgrade	Assistant EAP
	SANRAL	ECO Periodic Maintenance on National Route N6 Sec 8 from Reddersburg (km 0.00) to Rustfontein (km37.8)	Lead EAP
	Department of Roads and Public Works, Northern Cape	BAR/IWUL/Mining Permit applications for the MR 938 Mamatwan road upgrade	Assistant EAP
	Free State Department of Police, Roads and Transport	ECO for the internal road upgrades in Thumahole, Free State Province.	Review of reports



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	Department of Roads and Public Works, Northern Cape	Environmental Screening/BAR/IWUL/ DAFF Permit applications/ECO for the BK126 Magobing to Bathlaros road upgrade.	Lead EAP
	Department of Roads and Public Works, Northern Cape	Environmental Screening/BAR/IWUL/ DAFF Permit applications/ECO for the Tsineng to Washington road upgrade.	Lead EAP
	Department of Roads and Public Works, Northern Cape	BAR/IWUL/ DAFF Permit applications/ECO for the Hotazel to Maipeng road upgrade.	Lead EAP
Infrastructure Developments	Amatola Water	IWUL application/ECO for the installation of a bulk water pipeline, Herschel	Assistant EAP
	Maluti A Phofung Local Municipality	IWUL application/ECO for the installation of a bulk water pipeline, Kestell to Qwa Qwa	Assistant EAP
	Dr. Ruth Segomotsi Mompoti District Municipality	BAR and IWUL applications for the upgrading of the Waste Water Treatment Works in Stella	Lead EAP
	Dr. Ruth Segomotsi Mompoti District Municipality	Environmental Screening/EMP/IWULA/ECO for the construction of a water provision project for the village of Reivilo, Shaleng, Madipelesa, Karelstad, Mothlako, Molelema, Lykso, Pitsong and Kameelputs, North-West Province.	Lead EAP
	Dr. Ruth Segomotsi Mompoti District Municipality	Environmental Screening/ EMP/IWULA/ECO for the construction of a water provision project for the village of Schweizer-reneke, Piet Plessis, Konke, Broedersput, Geduldspan, Louwna, Mabone and Maeng, North-West Province.	Lead EAP
	Department of Rural Development and Land Reform	Scoping EIA, WULA and Air Emission License for the development of a Brick factory in Thaba-Nchu	Lead EAP
	Dr. Ruth Segomotsi Mompoti District Municipality	Section 24G for the development of a pump station in the Wentzel Dam, Schweizer-reneke, North-West Province.	Lead EAP
	Dr. Ruth Segomotsi Mompoti District Municipality	EMP/IWULA/ECO for the construction of a Waste Water Treatment Works for Stella, North-West Province.	Lead EAP



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	ASSMANG IRON ORE Khumani Mine	WULA/ECO for the development of three Khai Appel Boreholes and related infrastructure	Lead EAP
	AURECON	ECO for the upgrading of 12 Bridges in the De Aar and Upington Areas,	Lead EAP
	EUROMID AFRICA Development	EIA/Scoping/IWULA and ECO for MATJHABENG PRECINCT IDP PROJECT 201621, Free State Province.	Lead EAP
	Umfundu Professional Services CC.	IWULA and EIA/Scoping for the Mmamahabane cemetery establishment, Free State	Review of reports
	LMV (PTY) LTD.	Environmental Screening for the school development in Maokeng (Kroonstad) - Erwe 1500 & 24628, Free State Province	Lead EAP
	AURECON	Environmental Screening/BAR/WULA/ECO for Lindley Water Treatment Works and Pipeline route, Free State Province	Lead EAP
Residential Developments	Greater Taung Local Municipality	BAR application for Boipela Residential Development Extension in Reivilo	Lead EAP
Agriculture	VS Kunsmis	Scoping/EIA application for expansion of storage of a dangerous good at Vrede	Assistant EAP
	Linheim	BAR/ECO for the expansion of the Linheim Sheep Feedlot, Free State Province	Lead EAP
	Wildeklaar	BAR application for the expansion of pivot systems near Barkley West	Assistant EAP
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of an Agri-Park in Parys, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening/S24G and WULA application for the development of an Agri-Park in Springfontein, Free State	Lead EAP
	Department of Rural Development and Land Reform	S24G and WULA application for the development of an Agri-Park in Thaba-Nchu, Free State	Lead EAP



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	Department of Rural Development and Land Reform	Environmental Screening for the development of an Agri-Park in Tsiame, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of an Agri-Park in Wesselsbron, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of a Farmer Production Support Unit in Koffiefontein, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening/BAR and WULA application for the development of a Farmer Production Support Unit in Odendalsrus, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening for the development of a Farmer Production Support Unit in Sediba, Free State	Lead EAP
	Department of Rural Development and Land Reform	Environmental Screening/BAR application for the development of a Farmer Production Support Unit in Kroonstad, Free State	Lead EAP
	Department of Rural Development and Land Reform	BAR, Waste and WULA application for the development of a Piggery in Sediba, Free State	Lead EAP
	Department of Rural Development and Land Reform	BAR, Waste and WULA application for the development of a Piggery in Dewetsdorp, Free State	Lead EAP
	Department of Rural Development and Land Reform	BAR, Waste and WULA application for the development of a Piggery in Paradys Thaba- Nchu, Free State	Lead EAP
	Department of Rural Development and Land Reform	BAR and WULA application for the development of a Poultry facility Wesselsbron, Free State	Lead EAP
	Department of Rural Development and Land Reform	BAR and WULA application for the development of a Ostrich feedlot in Peterusburg, Free State	Lead EAP
	Sterraine (Pty) Ltd	BAR and WULA application for the development of a Poultry facility Kroonstad, Free State	Lead EAP



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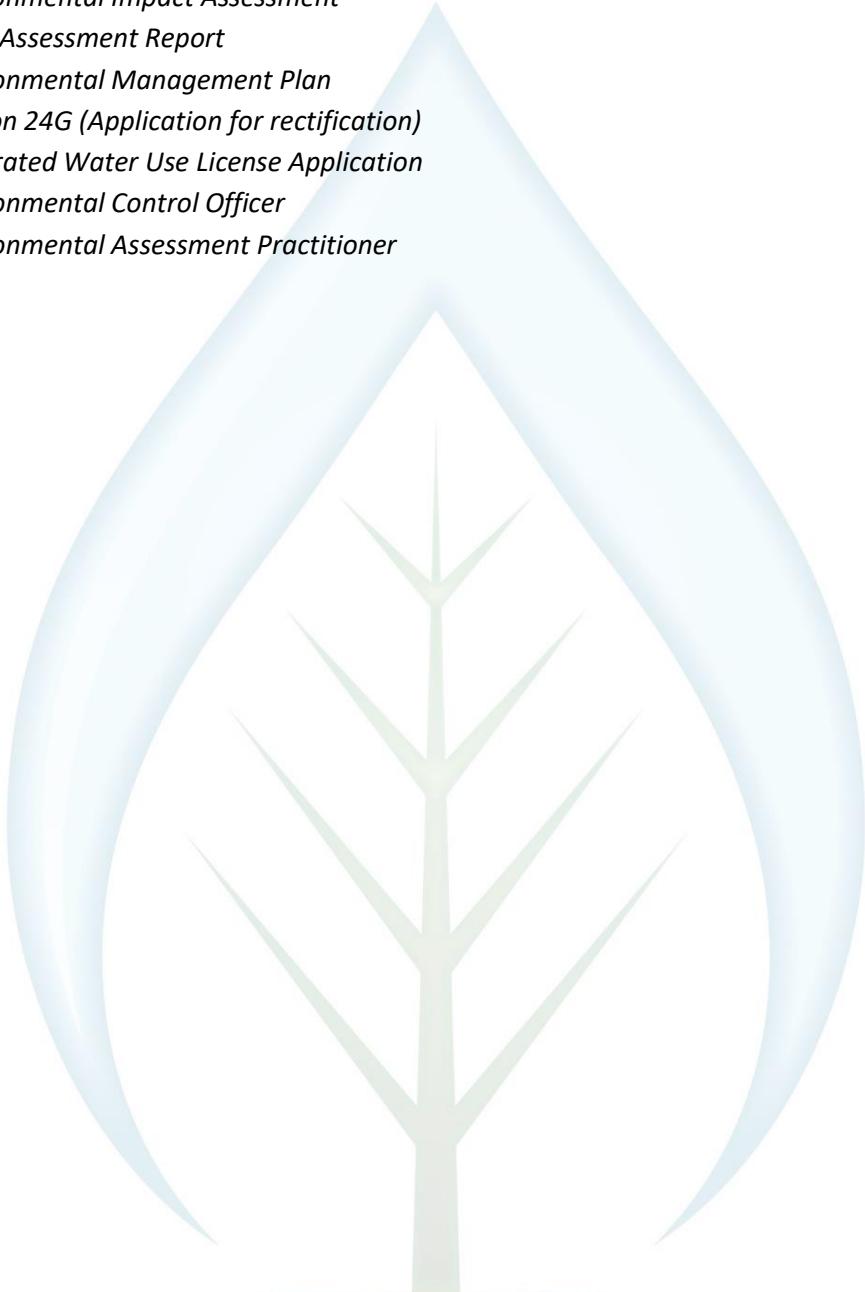
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- *EIA *Environmental Impact Assessment*
- *BAR *Basic Assessment Report*
- *EMP *Environmental Management Plan*
- *S24G *Section 24G (Application for rectification)*
- *IWULA *Integrated Water Use License Application*
- *ECO *Environmental Control Officer*
- *EAP *Environmental Assessment Practitioner*



EMG

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Ecological Specialist Reports

Fauna Habitat Assessment Specialist Reports:

- **Johannesburg**
 - Clubview extension 95 & 91: Mixed use Development
 - Fairlands: Road Interchange
- **Pretoria**
 - Knoppieslaagte: Industrial Development
 - Lanseria: Mixed Use Development
 - Lanseria extension 56: Mixed Use Development
 - Pretoria Gardens: Residential Development
 - Wattle Springs: Residential Development
 - PWV 17: Proposed Road Construction
 - Sunderland Ridge extension 24: Industrial Development
- **Boksburg**
 - Leeuwoort: Residential Development
- **Randburg**
 - Land Parcel 9: Mixed Use Development
 - Land Parcel 10: Mixed Use Development
 - Waterfall Kikuyu: Mixed Use Development
- **Brits**
 - Winterveld: Residential Development

Flora Habitat Assessment Specialist Reports:

- **Johannesburg**
 - Clubview extension 95 & 91: Mixed use Development
 - Fairlands: Road Interchange
- **Pretoria**
 - Knoppieslaagte: Industrial Development
 - Lanseria extension 51 & 53: Mixed Use Development
 - Mogale extension 5: Mixed Use Development
 - Lanseria extension 56: Mixed Use Development
 - Pretoria Gardens: Residential Development
 - Wattle Springs: Residential Development
 - PWV 17: Proposed Road Development
 - Sunderland Ridge extension 24: Industrial Development
 - Randjiesfontein: Residential Development
 - Rooihuiskraal: Mixed Use Development
 - Garsfontein: Residential Development
 - Knoppieslaagte extension 73: Industrial Development
 - Knoppieslaagte extension 95: Industrial Development



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- Swartkoppies: Mixed Use Development
- Waterfall fields: Residential Development
- Waterfall Ridge: Mixed Use Development
- **Boksburg**
 - Leeuwpoot: Residential Development
- **Randburg**
 - Land Parcel 9: Mixed Use Development
 - Land Parcel 10: Mixed Use Development
 - Waterfall Kikuyu: Mixed Use Development
 - Greystone: Mixed Use Development
- **Brits**
 - Winterveld: Residential Development
- **Vereeniging**
 - K 47: Proposed Road Development
 - K 77: Proposed Road Development
- **Limpopo**
 - Steelpoort: Industrial Development
- **Bloemfontein**
 - Section 16 N1 Road: Road Development
- **Kimberley**
 - Erf 11920: Residential Development
 - Wildeklaver: Agricultural Development
- **Parys**
 - Parys Agri-Park: Mixed Use Development
- **Springfontein**
 - Springfontein Agri-Park: Mixed Use Development

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CURRICULUM VITAE

Matshego Oregolele Keikelame

Environmental Consultant

Personal Information

ID: 9101146245086
Nationality: South African
Gender: Male
Health: Excellent
Vehicle License: Code C1
Language: English/Afrikaans/Setwana/Sesotho
Contact number: 073 036 1385
Email: mk@envmgrp.com

Skills and Responsibilities

- Use of Geographical Information Systems;
- Conduct Environmental Impact Assessments and other Environmental Technical Investigations;
- Apply and obtain, water licenses, mining permits and environmental authorisations for clients;
- Use different GIS datasets in order to create new information or investigate patterns for projects;
- Conduct environmental compliance and other environmental audits;
- Microsoft Office and Planet GIS.
- Liaising with clients in both the private and public sectors

Professional Experience

Date	August 2017 - Current
Organisation	Environmental Management Group
Position	Environmental Consultant

Date	July 2015 - August 2017
Organisation	Department of Police, Roads And Transport – Free State Province
Position	Environmental Science Intern
Description of duties	Conduct Application for Environmental Authorizations; Conduct Basic Assessment Reports and Environmental Management Plans (EMPs); Mining Permits; Conduct monthly environmental audits Public Participation Conduct site inspections; Water Use License Applications; Soil lab tests (CBR, MOD, PI)



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Education

Institution	Degree(s) or Diploma(s) obtained
University of The Free State 2009 - 2014	BSc. Geography
University of The Free State 2019 - 2020	Postgraduate Diploma in Integrated Water Management



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Environmental Impact Assessment Projects

Type	Client	Project	Role
Mining Permits or Rights	Department of Rural Development and Land Reform	Mining Permit application for a sandstone Quarry in Zastron	Assistant EAP
	Free State Department of Police, Roads and Transport	BAR for borrow pits/ quarries reserved in terms of the free state roads ordinance of 1968	Review
Road Construction	Department of Roads and Public Works, Northern Cape	Environmental Screening/BAR/IWUL/ DAFF Permit applications/ECO for the BK126 Magobing to Bathlaros road upgrade.	Assistant EAP
	Department of Roads and Public Works, Northern Cape	BAR/IWUL/ DAFF Permit applications/ECO for the Hotazel to Maipeng road upgrade.	ECO
	Department of Roads and Public Works, Northern Cape	ECO/Mining closure certificate for Upgrading of the Gravel Section of MR 947 between Rusfontein and Laxy- Phase 2	EAP/ECO
Infrastructure Developments	Amatola Water	IWUL application/ECO for the installation of a bulk water pipeline, Herschel	ECO
	Dr. Ruth Segomotsi Mompoti District Municipality	Environmental Screening/EMP/IWULA/ECO for the construction of a water provision project for the village of Reivilo, Shaleng, Madipelesa, Karelstad, Mothlako, Molelema, Lykso, Pitsong and Kameelputs, North-West Province.	Assistant EAP/ECO
	Dr. Ruth Segomotsi Mompoti District Municipality	Environmental Screening/ EMP/IWULA/ECO for the construction of a water provision project for the village of Schweizer-reneke, Piet Plessis, Konke, Broedersput, Geduldspan, Louwna, Mabone and Maeng, North-West Province.	Assistant EAP/ECO
	Department of Rural Development and Land Reform	Scoping EIA, WULA and Air Emission License for the development of a Brick factory in Thaba-Nchu	Assistant EAP
	EUROMID AFRICA Development	EIA/Scoping/IWULA and ECO for MATJHABENG PRECINCT IDP PROJECT 201621, Free State Province.	Assistant EAP



ENVIRONMENTAL MANAGEMENT GROUP

Specialists in Environmental Management
Integrating Industry and Infrastructure with the Environment

Tel: +27 51 412 6350
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Email: ckruger@envmgrp.com
Postal Address:
P.O.Box 37473,
Langenhoven Park 9330

Residential Developments	Sol Plaatjie Municipality	Upgrading of Lerato Park from Informal to integrated settlement	ECO
Agriculture	Linheim	BAR/ECO for the expansion of the Linheim Sheep Feedlot, Free State Province	Assistant EAP

Appendix I: Specialist's declaration of interest

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) amended and the Environmental Impact Assessment Regulations, 2014

PROJECT TITLE

SEDIBA FARMER PRODUCTION SUPPORT UNIT

Specialist:	Lloyd Rossouw		
Company Name:	Palaeo Field Services		
Contact person:	Lloyd Rossouw		
Postal address:	PO Box 38806 Langenhoven Park		
Postal code:	9330	Cell:	0842505992
Telephone:	-	Fax:	0864010679
E-mail:	lloyd.rossouw@gmail.com		
Professional affiliation(s) (if any)	Archaeology and Cultural Anthropology Specialist		

Project Consultant:	Environmental Management Group (PTY) LTD		
Contact person:	Sampie van Rooyen		
Postal address:	P.O Box 37473 Langenhoven Park		
Postal code:	37473	Fax:	051 412 6351
Telephone:	051 412 6350	Cell:	083 678 3032
E-mail:	svr@envmgrp.com		

The specialist appointed in terms of the Regulations.

I, Lloyd Rossouw, declare that:

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Paleo Field Services

Name of company (if applicable):

02/08/2020

Date:

Appendix J: Title Deeds

WinDeed Database Deeds Office Property



F0320000000003500000

GENERAL INFORMATION

Date Requested 2017/10/10 10:44
Deeds Office BLOEMFONTEIN
Information Source WINDEED DATABASE
Reference -

PROPERTY INFORMATION

Property Type FARM
Farm Name SELIBA
Farm Number 35
Portion Number 0
Local Authority NOT AVAILABLE
Registration Division THABA'NCHU RD
Province FREESTATE
Diagram Deed G10F/1885BP
Extent 1667.0940H
Previous Description -
LPI Code F0320000000003500000

OWNER INFORMATION**Owner 1 of 2**

Type GOVERNMENT
Name REPUBLIEK VAN SUID-AFRIKA
ID / Reg. Number -
Title Deed G00/1885BP
Registration Date -
Purchase Price (R) SECT 28
Purchase Date -
Share 0.00
Microfilm 2006 0478 0181
Multiple Properties NO
Multiple Owners NO

Owner 2 of 2

Type GOVERNMENT
Name REPUBLIEK VAN SUID-AFRIKA
ID / Reg. Number -
Title Deed T22703/1999
Registration Date 1999/09/03
Purchase Price (R) TRANSFER BY ENDO
Purchase Date -
Share 0.00
Microfilm -
Multiple Properties NO
Multiple Owners NO

ENDORSEMENTS (7)

#	Document	Institution	Amount (R)	Microfilm
1	I-774/2000-I	REPUBLIEK VAN SUID-AFRIKA	0	-
2	EX191/2005	-	UNKNOWN	-
3	EX192/2005	-	UNKNOWN	-
4	I-5871/2007C	NOTICE 1620 OF 2007-20071019	UNKNOWN	2007 0423 4334
5	42S/1934BP	-	UNKNOWN	-
6	THABA'N RD,35	-	UNKNOWN	-
7	VA69/2017	REPUBLIEK VAN SUID-AFRIKA	UNKNOWN	-

HISTORIC DOCUMENTS (1)

#	Document	Owner	Amount (R)	Microfilm
1	G00/1885BP	REPUBLIEK VAN BOPHUTHATSWANA	SECT 28	2006 0478 0181

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Appendix K: Landowner's Consent Letter



Free State Provincial Office of Rural Development and Land Reform, Private Bag X20546, BLOEMFONTEIN, 9300 Tel (051) 400 4200
Fax (051) 430 2392

LAND RIGHTS HOLDERS' RESOLUTION IN TERMS OF THE "INTERIM PROCEDURES GOVERNING LAND DEVELOPMENT DECISIONS WHICH REQUIRE THE CONSENT OF THE MINISTER OF RURAL DEVELOPMENT AND LAND REFORM AS NOMINAL OWNER OF THE LAND" WHICH WAS APPROVED BY POLCOM ON 20 NOVEMBER 1997 AND AMENDED ON 14 JANUARY 1998 & ALSO IN TERMS OF SECTION 3(1) (A) (II) OF ACT 112 OF 1991 AS AMENDED BY ACT 34 OF 1996

1. At a meeting of the SEBIBA TRUST / VILLAGE Land Rights Holders at THABA NCHU, district of MATIELANG METRO province of FREE STATE on the 24 day of MARCH 2018 before BAROLONG BO SELEKA councillors, Community leaders and representatives, Land Rights Holders present.

2. The PURPOSE of the meeting being

TO GET SEBIBA TRUST / VILLAGE LAND RIGHTS
HOLDERS RESOLUTION ON THE PROPOSED CONSTRUCTION
OF HARI PARK AT SEBIBA TRUST IN THABA NCHU
DISTRICT OF MATIELANG METRO WHICH IS THE
VILLAGE UNDER BAROLONG BO SELEKA TRADITIONAL
COUNCIL.

M.B. FU M.S.

3. That the Land Rights Holders were informed of the meeting 23 days/ months prior thereof, through the following CHANNELS OF COMMUNICATION

INVITATION LETTERS, LOUHALEA.

4. By means of (specify the type of MEDIA used)

NO MEDIA WAS USED.

5. That the Land Rights Holders consists of approximately 160 members. Of which 99 adult males and 47 adult females who attended the meeting.

6. That ALL of the members who attended the meeting voted in favor of the above resolution and NONE voted against it.

7. That I am satisfied that the majority of the adult members present at the meeting were in favor of the above resolution.

8. The Land Rights Holders' Statement of Resolution. The land rights holders/ community have resolved that

THE RETIREMENT OF RURAL DEVELOPMENT AND LAND REFORM CAN CONTINUE WITH THE CONSTRUCTION OF THE PROPOSED ACRI PARK AS IT WILL BENEFIT SEDIBA TRUST/VILAGE COMMUNITY AND SURROUNDING FARMS.

M.B A.J M.S

9. It was further **RESOLVED** that

9.1 The following signatories will sign the agreement taken by the community on their behalf to give effect to the decision to alienate/ develop the land

9.1.1 Name: Mathewagasebe Kgauwane Capacity: SEBIBA TRUST COMMUNITY REPRESENTATIVE

Signature: [Signature] Date: 24/03/18 24 MARCH 2018

9.1.2 Name: M. M. M. M. SETHUWELO Capacity: BAROLONG BO SELEKA REPRESENTATIVE

Signature: [Signature] Date: 24 MARCH 2018

9.1.3 Name: Capacity: AFFECTED MUNICIPALITY REPRESENTATIVE

Signature: Date: 24 MARCH 2018

9.2 The following signatories will co-sign the lease agreement on behalf of the community to give effect to the decision to alienate/ develop the land. (The parties to the lease agreement are the community, the investor/ developer and the Minister of Rural Development and Land Reform)

9.2.1 Name: Mathewagasebe Kgauwane Capacity: SEBIBA TRUST COMMUNITY REPRESENTATIVE

Signature: [Signature] Date: 24/03/18 24 MARCH 2018

9.2.2 Name: M. M. M. SETHUWELO Capacity: BAROLONG BO SELEKA REPRESENTATIVE

Signature: [Signature] Date: 24 MARCH 2018

9.2.3 Name: Capacity: AFFECTED MUNICIPALITY REPRESENTATIVE

Signature: Date: 24 MARCH 2018

M.S
M.B F.J

9.3 The following signatories will sign the agency agreement on behalf of the community. (The agency agreement is a trust contract with the agent who will hold and administer the funds for the benefit of the community, following the decision to alienate/ develop the land).

9.3.1 Name: Mathuwagosele Kgauare Capacity: SEBIBATRUST COMMUNITY REPRESENTATIVE
 Signature: [Signature] Date: 24 MARCH 2018

9.3.2 Name: MOUTHOBISI SETLOOLO Capacity: BAROLOTHA BO SELEKA REPRESENTATIVE
 Signature: [Signature] Date: 24 MARCH 2018

9.3.3 Name: Capacity: AFFECTED MUNICIPALITY REPRESENTATIVE
 Signature: Date: 24 MARCH 2018

10. The co-signatories in section 9.1, 9.2 and 9.3 signed on behalf of and with full consent of the Land Rights Holders present or represented in the meeting.

The BAROLOTHA BO SELEKA Tribal / Local / Community Authority and the

SEBIBATRUST / VILLAGE Land Rights Holders/ Community and other structures residing on the land shall be bound in law by this land rights holders' resolution.

10. This Land Rights Holders constitutes a legal document and to give effect to it, the community has approved that they approve to this resolution document and that the following SIGNATORIES sign this Land Rights Holders' Resolution on their behalf:

10.1 Name: Mathuwagosele Kgauare Capacity: SEBIBATRUST COMMUNITY REPRESENTATIVE
 Signature: [Signature] Date: 24 MARCH 2018

10.2 Name: MOUTHOBISI SETLOOLO Capacity: BAROLOTHA BO SELEKA REPRESENTATIVE
 Signature: [Signature] Date: 24 MARCH 2018

10.3 Name: Capacity: AFFECTED MUNICIPALITY REPRESENTATIVE
 Signature: Date: 24 MARCH 2018

M.B F.J M.S

CERTIFICATE

I Fusi JOSEPH SELLO the duly appointed Investigating Official from the Department of Rural Development and Land Reform hereby certify that-

(i) I have attended the meeting of the SEKIBA TRUST / VILLAGE

~~Tribal~~ Community/ Land Rights Holders under the chair/leadership of

BAROLONG MOSELEKA TRADITIONAL COUNCIL

Convened for purposes of considering this resolution.

(ii) The facts set out in the above resolution are to the best of my knowledge, true and correct and this resolution is a true record of the proceedings at the meeting.

(iii) The nature of the rights is GRAZING RIGHTS

Strike out where necessary:

(a) The development will/ will not lead to a change in these rights

(b) Those whose rights are affected have been/ have not been accommodated

(c) There are/ there are no overlapping land rights

(d) New rights & benefits are created/ no new rights & benefits are created

(e) The rights of women have improved/ stay the same/ are worse of because of the development decision

(iv) The signatories affixed their signatures to this document in my presence.

(v) I have to the best of my ability explained the purpose and legal implications of the said resolution to those present and represented at the meeting

SIGNED ON THE 24 DAY OF MARCH 2018 AT SEKIBA TRUST / VILLAGE

 PROJECT OFFICER

OFFICIAL'S SIGNATURE DESIGNATION

NB! SEE ATTACHED ATTENDANCE REGISTER of rights holders attending the meeting

M.B

F.J

M.S

Appendix L: Enquiry response



destea

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

Enquiries: Ms. G. Mkhosana
Tel No: 051 400 4812

Mr. Sampie van Rooyen
Environmental Management Group
P.O Box 28242
Danhof
9310

Tel: 051 412 6350
Email address: svr@envrmgp.com

Dear Mr. van Rooyen,

RE: SEDIA AND MAKHOLOGOENG SHED AND ADMIN OFFICES.

The Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA) - 'the Department', acknowledges receipt of your request for a listed activity confirmation in terms of 2014 Environmental Impact Assessment (EIA) Regulations as amended promulgated under National Environmental Management Act, 1998 (Act No. 107 of 1998) on the 25 October 2017.

Based on information provided on the email dated 25 October 2017, the Department hereby confirms that the proposed activity does not trigger any listed activity in terms of 2014 EIA regulations as amended. Therefore, you are not required to apply for an Environmental Authorisation prior to commencement of the proposed activity.

Furthermore the proponent is advised to adhere to the provisions of Section 28 of NEMA (Duty-of-Care) throughout the lifespan of the activity.

Regards,

Ms. G. Mkhosana
Acting Director: Environmental Management
Date: 26/10/2017

DIRECTORATE:
Private Bag X 20801
Bloemfontein
9300

Environmental Management
Tel +27 (0)51 400 4812
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e-mail: mkhosana@detea.fs.gov.za

