

Final Basic Assessment Report

Proposed Expansion of the Runway in Lapalala  
Wilderness Reserve and the development of the  
Wilderness School Access Road, Limpopo Province

Prepared by:



March 2020

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## FOREWORD

This report constitutes the **Final Basic Assessment Report** and has been circulated digitally for Stakeholder information on 24 March 2020.

NuLeaf Planning and Environmental would like to thank all Stakeholders for their participation and input into this process.

All written comments received, including NuLeaf's response to each, has been captured in a Comments and Responses Register in Appendix E.

Please mark all future comments for the attention of:

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## ACRONYMS AND ABBREVEATIONS

BA:	Basic Assessment
BAR:	Basic Assessment Report
CBA:	Critical Biodiversity Area
CMP:	Construction Management Plan
DWS:	South African National Department of Water and Sanitation
EA:	Environmental Authorisation
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EIR:	Environmental Impact Report
EMPr:	Environmental Management Programme
EMS:	Environmental Management System
EO:	Environmental Officer
I&AP:	Interested and Affected Party
IDP:	Integrated Development Plan
IEM:	Integrated Environmental Management
LED:	Local Economic Development
NEMA:	National Environmental Management Act, Act No. 107 of 1998
NEMPAA:	National Environmental Management: Protected Areas Act, Act No. 57 of 2003
NPAES:	National Protected Area Expansion strategy
OMP:	Operational Management Plan
SAHRA:	South African Heritage Resources Agency
UNESCO:	United Nations Educational, Scientific and Cultural Organization

## GLOSSARY OF TERMS

Alien Vegetation:	Alien vegetation 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.
Alien Species:	A plant or animal species introduced from elsewhere: neither endemic nor indigenous.
Alternatives:	In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to:  (a) The property on which or location where it is proposed to undertake the activity;  (b) The type of activity to be undertaken;  (c) The design or layout of activity;  (d) The technology to be used in the activity; and  (e) The operational aspects of the activity
Applicant:	Any person who applies for an authorization to undertake an activity or to cause such activity to be undertaken as contemplated in the National Environmental Management Act (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010.
Buffer zone:	Is a collar of land that filters out inappropriate influences from surrounding activities, also known as edge effects, including the effects of invasive plant and animal species, physical damage and soil compaction caused by trampling and harvesting, abiotic habitat alterations and pollution. Buffer zones can also provide more landscape needed for ecological processes, such as fire.
Construction Activity:	Any action taken by the Contractor, his subcontractors, suppliers or personnel during the construction process.
Ecology:	The study of the inter relationships between organisms and their environments.
Environment:	All physical, chemical and biological factors and conditions that influence an object and/or organism.
Environmental Impact:	An Impact or Environmental Impact is the degree of change to the environment, whether desirable or undesirable, that will result from the effect of a defined activity. An Impact may be the direct or indirect consequence of the activity and may be simple or cumulative in nature.
Environmental Impact Assessment:	Assessment of the effects of a development on the environment.
Environmental Management Programme:	A legally binding working document, which stipulates environmental and socio-economic mitigation measures that, must be implemented by several responsible parties throughout the duration of the proposed project.
Indigenous:	Means a species that occurs, or has historically occurred, naturally in a free state within the borders of South Africa. Species that have been introduced to South Africa as a result of human activity are excluded (South Africa (Republic) National Environmental Management: Biodiversity Act, 2004: Chapter 1).

Interested and Affected Party:	Any person, group of persons or organization interested in or affected by an activity contemplated in an application, or any organ of state that may have jurisdiction over any aspect of the activity.
Invasive vegetation:	Plant species that show the potential to occupy in unnatural numbers, any disturbed area, including pioneer species.
Mitigate:	The implementation of practical measures to reduce adverse impacts Public Participation Process: is a process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters.
Public Participation:	The legislated process contemplated in terms GN R543, in which all potential interested and affected parties are informed of the proposed project and afforded the opportunity to input, comment and object. Specific requirements are listed in terms of advertising and making draft reports available for comment.
Road Reserve:	The road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.
Road Width:	The area within the Road Reserve including all areas beyond the Road Reserve that are affected by the continuous presence of the road i.e. the verge.
Red data plant species:	Are fauna and flora species that require environmental protection based on the World Conservation Union (IUCN) categories and criteria.
RoD:	Record of Decision pertaining to the Application for Environmental Authorisation issued by the Competent Authority. The RoD is legally binding on the Applicant and may contain a positive or negative decision on the Application as well as conditions and provisions for each.
Soil Compaction:	Mechanically increasing the density of the soil, vehicle passage or any other type of loading. Wet soils compact easier than moist or dry soils.
Species:	Means a kind of animal, plant or other organism that does not normally interbreed with individuals of another kind. The term "species" include any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population (South Africa [Republic] National Environmental Management: Biodiversity Act, 2004: Chapter 1).
The Contractor:	The contractor, as the developers agent on site, is bound by the ROD and EMP conditions through his/her contract with the developer, and is responsible for ensuring that conditions of the EMP and ROD are strictly adhered to at all times. The contractor must comply with all orders (whether verbal or written) given by the ECO, project manager or site agent in terms of the EMP.
The Developer:	Remains ultimately responsible for ensuring that the development is implemented according to the requirements of the EMP and the conditions of the Environmental Decision throughout all phases of the project.
The Environmental Control Officer (ECO):	The ECO is appointed by the developer as an independent monitor of the implementation of the EMP i.e. independent of the developer and contractor.
The Environmental Officer (EO):	The Contractor shall submit to the Site Agent a nominated representative of the Contractor as an EO to assist with day to day monitoring of the construction activities for the contract.

- Vegetation: Is a collective word for plants occurring in an area.
- Vulnerable: A taxon is 'Vulnerable' when it is not 'Critically Endangered' or 'Endangered' but is facing a high risk of extinction in the wild in the medium term future.
- Watercourse: A river or spring; a natural channel in which water flows regularly or intermittently; a wetland, lake or dam into which, or from which, water flows; and any collection of water which the Minister may by notice in the Government Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks" (South Africa [Republic] National Water Act, 1998).



## EXECUTIVE SUMMARY

The proposed expansion of the runway will entail the addition of a 100m stop way and a 500m clearway to the existing runway, on property Game 1014 LR, within Lapalala Wilderness Reserve. The stop way is an extension to the runway and will need to be completely cleared and levelled in order for it to support the landing of aircraft without causing any structural damage. The clearway is an extension to the runway that acts as a safety net in the event that a planes climb rate is reduced due to an unforeseen problem. The clearway will only need to be cleared of vegetation/obstacles of a significant height (i.e. anything with a height greater than 1m).

The construction of the road will entail the development of a new road that will allow access for a 60 seater bus to the Lapalala Wilderness School, on Portion 1 and 2 of the Farm Frischgewaagd 649 LR. The proposed road will be 576m long and 5m wide, with a reserve of 1m on each side.

Both the proposed activities will occur within the Lephalale Local Municipality, approximately 60 Km south east of Lephalale.

Lapalala Wilderness Reserve and its surrounds are situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened**. It is not situated in any floristic centres of endemism and is not listed as a Threatened Ecosystem. The Limpopo Province Biodiversity Conservation Assessment classifies the proposed expansion Site and most of the Lapalala Wilderness and general surroundings as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013). One plant Species of Conservation Concern was recorded during fieldwork, namely *Elaeodendron transvaalense* (Near Threatened) and is **protected** under the National Forests Act (No. 30 of 1998). Additionally, the trees *Spirostachys africana* and *Sclerocarya birrea* are **protected** under the LEMA and NFA respectively and the small tree *Combretum nelsonii* is endemic to Limpopo. Two confirmed **SCC**, namely Sable *Hippotragus niger* (**VU**) and Roan *Hippotragus equinus* (**EN**) are confined to breeding enclosures along the proposed runway extension.

All efforts will be made to avoid the identified SCC and Protected trees located within the development footprint for the proposed runway expansion. However, if this is not possible due to safety reasons, then a permit will be applied for in order to remove the trees. Similarly, the proposed access road to the Lapalala School will be walked on site prior to construction where all SCC and protected trees will be marked and the alignment shifted where possible.

No cultural heritage sites were recorded within the proposed runway expansion site, however, 2 heritage sites were recorded in close proximity to the proposed access road to the Lapalala School.

The proposed development sites are acceptable for development and are not fatally flawed in any way. The construction impacts, if effectively managed according to the mitigation measures proposed in this report, the specialist reports and the draft EMPr will have a **low** residual significance rating. **Moderate** post mitigation significance ratings are anticipated in terms of the loss of areas classified as CBA1 due to vegetation clearing.

Similarly, operational impacts can also be mitigated and will result in **low** post mitigation significance ratings with the exception of air pollution from aircrafts and vehicles resulting in a moderate post mitigation significance rating.

Positive impacts include job creation and employment opportunities for both the construction phase, as well as, skills transfer and development.

It is recommended that the proposed Runway Expansion at Lapalala Wilderness Reserve and the proposed access road to the Lapalala School be supported on the condition that all mitigation measures mentioned in this report, the specialist reports and the draft EMPr are implemented and adhered to throughout the project lifecycle.



**DEPARTMENT OF  
 ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM**

**BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014**

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.

File Reference Number:

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NEAS Reference Number:

(For official use only)

Date Received:

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Due date for acknowledgement:

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Due date for acceptance:

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Due date for decision

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Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.
2. 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.
3. Where applicable **tick** the boxes that are applicable in the report.
4. 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 Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.
5. An incomplete report may be returned to the applicant for revision.
6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.
8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.
9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.
10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

<p><b><u>Postal Address:</u></b>          Central Administration Office          Environmental Impact Management          P. O. Box 55464  <b>POLOKWANE</b>          0700</p>	<p><b><u>Physical Address:</u></b>          Central Administration Office          Environmental Affairs Building          20 Hans Van Rensburg Street / 19 Biccard Street  <b>POLOKWANE</b>          0699</p>
<p><b>Queries should be directed to the Central Administration Office: Environmental Impact Management:-</b></p> <p>For attention: Mr E. V. Maluleke          Mobile: 082 947 7755          Email: <a href="mailto:malulekeev@ledet.gov.za">malulekeev@ledet.gov.za</a></p>	

View the Department's website at <http://www.ledet.gov.za/> for the latest version of the documents.

## SECTION A: ACTIVITY INFORMATION

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

YES

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

### 1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail<sup>1</sup>:

The runway currently in operation at Lapalala Wilderness Reserve is unpaved and less than a Km in length. It was first established as part of a military base and was constructed prior to environmental legislation coming into effect. Please refer to the topographical map in the HIA.

The proposed expansion of the runway will entail the addition of a 100m stop way and a 500m clearway to the existing runway, on property Game 1014 LR, within Lapalala Wilderness Reserve. The stop way is an extension to the runway and will need to be completely cleared and levelled in order for it to support the landing of aircraft without causing any structural damage. The clearway is an extension to the runway that acts as a safety net in the event that a planes climb rate is reduced due to an unforeseen problem. The clearway will only need to be cleared of vegetation/obstacles of a significant height (i.e. anything with a height greater than 1m). The runway will be surfaced i.e. tarred.

The construction of the road will entail the development of a new road that will allow access for a 60 seater bus to the Lapalala Wilderness School, on Portion 1 and 2 of the Farm Frischgewaagd 649 LR. The proposed road will be 576m long and 5m wide, with a reserve of 1m on each side.

Both the proposed activities will occur within the Lephhalale Local Municipality, approximately 60 Km south east of Lephhalale.

### 2. FEASIBLE AND REASONABLE ALTERNATIVES

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

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

<sup>1</sup> Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity 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 Department 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.

No alternatives are under consideration for the proposed expansion due to the fact that the existing runway is being extended by 600 m. There is also no alternative for the road development as initially the existing road was going to be upgraded, however, from an engineering perspective this was not a long term viable option due to the impact that a 60 seater bus would have on the road. Therefore, when considering engineering aspects, as well as ecological factors, the position of the current proposed access road is the only feasible option.

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

### 3. ACTIVITY POSITION

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, minutes and seconds. The projection that must be used in all cases is the Hartebeeshoek 94 WGS84 spheroid in a national or local projection.

In the case of linear activities:

#### Runway:

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

Latitude (S):

Longitude (E):

23°	52'	50.92"	28°	18'	25.28"
23°	52'	43.22"	28°	18'	28.31"
23°	52'	34.95"	28°	18'	31.68"

Latitude (S):

Longitude (E):

#### Road:

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

23°	56'	17.97"	28°	21'	44.69"
23°	56'	19.17"	28°	21'	44.26"
23°	56'	24.92"	28°	21'	49.40"
23°	56'	29.44"	28°	21'	51.47"
23°	56'	29.58"	28°	21'	47.72"

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.

#### 4. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1

or,

for linear activities:

Size of the activity:

	m <sup>2</sup>
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Length of the activity:

Alternative:

Runway

Road

	600 m
	576 m

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

Size of the site/servitude:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

	m <sup>2</sup>
	m <sup>2</sup>
	m <sup>2</sup>

#### 5. SITE ACCESS

Does ready access to the site exist?

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

	m
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Describe the type of access road planned:

An existing 2 spoor track leads to the existing runway.

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.

## 6. SITE OR 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:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers;
  - the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

Please refer to Appendix A.

## 7. 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 form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Please refer to Appendix B.

## 8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 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.

N/A

**9. ACTIVITY MOTIVATION**

**9(a) Socio-economic value of the activity**

What is the expected capital value of the activity on completion?  
 What is the expected yearly income that will be generated by or as a result of the activity?  
 Will the activity contribute to service infrastructure?  
 Is the activity a public amenity?  
 How many new employment opportunities will be created in the development phase of the activity?  
 What is the expected value of the employment opportunities during the development phase?  
 What percentage of this will accrue to previously disadvantaged individuals?  
 How many permanent new employment opportunities will be created during the operational phase of the activity?  
 What is the expected current value of the employment opportunities during the first 10 years?  
 What percentage of this will accrue to previously disadvantaged individuals?

R 2.5 million
R 0
NO
NO
25
R 5 million
60%
10
R 3 million
80%

**9(b) Need and desirability of the activity**

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

<b>NEED:</b>	
i.	Was the relevant municipality involved in the application? YES
ii.	Does the proposed land use fall within the municipal Integrated Development Plan? YES
	Lephalale Local Municipality Integrated Development Plan (IDP) recognizes that the tourism industry plays a vital role in the local economy and will most likely continue to grow, particularly with regard to the hunting and ecotourism industries.  One way to promote the eco-tourism of the area is to increase the tourism offerings in the region, as well as, diversifying the tourism products and making the region and facilities more accessible. In this regard, the expansion of the runway as well as the development of the access road to the Wilderness School falls within the IDP.
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:

<b>DESIRABILITY:</b>	
i.	Does the proposed land use / development fit the surrounding area? YES



ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES	
<p>The Waterberg Spatial Development Plan (SDP) recognizes that the Waterberg Biosphere Reserve plays a pivotal role in conservation and eco-tourism in the Waterberg District Municipality. It also recognizes that it is important that the environmental heritage, conservation areas, biodiversity hotspots and ecologically sensitive areas are actively protected, managed, and enhanced to ensure that they are not adversely affected by other activities. Permitted activities within the Biosphere Reserve includes ecotourism, of which the proposed expansion of the runway and development of the road make the areas more accessible, in turn promoting tourism in the area. Also of note, is that the SDP acknowledges the important role that the private sector and land owners play in tourism development.</p> <p>The Waterberg District Environmental Management Framework (EMF) identifies various zones within the district. Lapalala Wilderness falls within Zone 1: Protection of natural vegetation, scenic landscape and rock paintings areas, with limited appropriate tourism, and Zone 2: Nature and cultural tourism focus areas within a high quality natural setting. Both of these zones allow for some sort of low impact, ecotourism developments of which expansion and development of access roads fall under.</p>			
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	
<p>The benefits of the proposed development and expansion are positive as they increase the accessibility to the area and therefore create opportunity for economic growth and diversification of both the Lapalala Wilderness and the regions tourism offerings. Both the expansion of the runway and the development of the new access road bring with them an improved safety aspect. Additionally, jobs will be created during the construction phase which is ideal in an area such as Lephalele where the unemployment rate is high.</p>			
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
v.	Will the proposed land use / development impact on the sense of place?		NO
<p>The area where the proposed expansion is to take place has already been impacted upon owing to the existing 1.1 km runway and other infrastructure such as offices and staff housing. Only an additional 100 m will be completely cleared for the stop way, while the remaining 500 m for the clear way will be cleared of vegetation/obstacles of a significant height (i.e. anything with a height greater than 1m). The proposed access road will not have any significantly noticeable negative impacts on the sense of place of the area</p>			

	as the footprint will be minimal compared to the greater scheme of the surrounding area.	
vi.	Will the proposed land use / development set a precedent?	NO
vii.	Will any person's rights be affected by the proposed land use / development?	NO
viii.	Will the proposed land use / development compromise the "urban edge"?	NO
	The urban edge will not be compromised as the proposed development site is not located within a built environment. Lapalala Wilderness Reserve is a reserve which is currently in the process of being formally declared as a Protected Area in terms of NEMPAA. The Wilderness School is located just outside the Lapalala Wilderness Reserve and is also not within a built environment.	
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.	

<b>BENEFITS:</b>		
i.	Will the land use / development have any benefits for society in general?	YES
ii.	<p>Explain:</p> <p>The benefits of proposed project to the society in general include the following:</p> <ul style="list-style-type: none"> <li>• Contributing to local economic growth through the establishment of a viable economic activity through improving the areas accessibility.</li> <li>• Contributing to the ongoing conservation of Lapalala Wilderness. The increase of local revenue will allow for the continued conservation and protection of the area.</li> <li>• The expansion of the runway and development of a suitable access road will ensure safety of all those involved is maintained at kept to the highest standard.</li> <li>• Diversifying of tourism offerings within both Lapalala Wilderness Reserve and the region.</li> <li>• Contributing to the job creation within a rural area. The increase of local jobs will allow for the continued economic development and growth of the area.</li> </ul>	
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES
iv.	<p>Explain:</p> <p>The proposed expansion of the runway and development of the access road will benefit the local communities in terms of short term employment opportunities and job creation. It is estimated that approximately 10 jobs will be created during the construction phase and a smaller amount of additional jobs for maintenance purposes during the operational phase.</p>	

## 10. 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
<b>LEGAL FRAMEWORK</b>			
Constitution of Republic of South Africa (Act No.108 of 1996):	This is the fundamental law of South Africa, setting out the Bill of Rights as well as the relationship of various government structures to each other.	National Government	1996
Conservation of Agricultural Resources Act (Act No. 43 of 1983):	Provides for control over the utilization of the natural agricultural resources of the Republic. The project will be required in terms of this legislation to ensure that: <ul style="list-style-type: none"> <li>▣ The soil mantle is protected and conserved,</li> <li>▣ The natural water sources are protected,</li> <li>▣ Vegetative cover is conserved and weeds and invader plants are removed from the site.</li> </ul>	Department of Agriculture	1983
National Environmental Management Act (Act No. 107 of 1998)	To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for co-ordinating environmental functions exercised by organs of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith.	Department of Environmental Affairs	1998
National Environmental Management: Protected Areas Act (Act No. 57 of 2003):	The Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas, and for matters in connection therewith. While, Lapalala Wilderness is not a formally declared protected area, it does fall within the Waterberg Biosphere Reserve as recognized by UNESCO and an application for proclamation has been submitted.	Department of Environmental Affairs	2003
National Environmental Management:	The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework set out by NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation	Department of Environmental Affairs	2004

Biodiversity Act (Act No. 10 of 2004):	strategy, the National Spatial Biodiversity Assessment was developed (see below). The Act lists species that are threatened or require protection to ensure their survival in the wild, while regulating the activities, which may involve such listed threatened or protected species and activities which may have a potential impact on their long-term survival. The Act has listed flora and fauna species.		
National Spatial Biodiversity Assessment, 2011:	The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels.	Department of Environmental Affairs	2011
National Forests Act (Act No. 84 of 1998):	This Act provides for the management, utilisation and protection of forests through the enforcement of permitting requirements associated with the removal of protected tree species, as indicated in a list of protected trees (first promulgated in 1976 and updated since).	Department of Agriculture, Forestry and Fisheries	1998
National Veld and Forest Fire Act (Act No. 101 of 1998)	The purpose of this Act is to prevent and combat veld, forest and mountain fires throughout the Republic. The Act provides for a variety of institutions, methods and practices for achieving this purpose.	Department of Water Affairs	1998
National Heritage Resources Act (Act No. 25 of 1999)	The National Heritage Resources Act legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 hectares (ha) and where linear developments exceed 300 metres in length. Potential impact on cultural heritage, paleontological or archaeological resources through excavation activities or disturbance will need to be monitored. Permits may be required per the National Heritage Resources Act (Act No. 25 of 1999).	South African Heritage Resources Agency (SAHRA)	1999
The National Water Act (Act No. 36 of 1998)	This Act aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. The development will have to ensure that local water resources are protected, used, developed, conserved, managed and controlled in a responsible way.	Department of Water Affairs	1998
The National Water Services Act (Act No. 108 of 1997)	The Act legislates the necessity to provide for the rights of access to basic water supply and basic sanitation; to provide for the setting of national standards and of norms and standards for tariffs; to provide for water services development plans; to provide a regulatory framework for water services institutions and water services intermediaries; to provide for the establishment and disestablishment of water boards and water services committees and their powers and duties; to provide for the monitoring of water services and intervention by the Minister or by the relevant Province; to provide for financial assistance to water services institutions; to provide for certain general powers of the Minister; to provide for the gathering of information in a national information system and the distribution of that information; to repeal certain laws; and to provide for matters connected therewith.	Department of Water Affairs	1997
National	The Waste Act reforms the law regulating waste management in order to protect the	Department of	2008

Environmental Management Waste Act (Act No. 59 of 2008)	environment by providing reasonable measures for the prevention of pollution and ecological degradation. The development will be subject to this Act in terms of the disposal of waste.	Environmental Affairs	
Hazardous Substances Act (Act No. 15 of 1973)	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products; to provide for the division of such substances or products into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and to provide for matters connected therewith.	Department of Health	1973
National Environmental management Air Quality Act (Act No. 39 of 2004)	To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto.	Department of Environmental Affairs	2004
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.	Department of Labour	1993
Integrated Environmental Management Information Series	IEM is a key instrument of NEMA and provides the overarching framework for the integration of environmental assessment and management principles into environmental decision-making. The aim of the information series is to provide general information on techniques, tools and processes for environmental assessment and Management. ERM have referred to these various documents for information on the most suitable approach to the environmental assessment process for the proposed development.	Department of Environmental Affairs	1992
<b>REGIONAL PLANNING POLICIES</b>			
Waterberg District Municipality Spatial Development Framework	The Waterberg SDF has identified certain development objectives and strategies: 1. Promotion and facilitation of economic development: support and develop strategic locations that contain the right characteristics inclusive of areas such as the biosphere and tourism nodes.  2. The sustainable management of the natural environmental assets and heritage: identify and isolate valuable natural assets, ensure continuous ecological and open space systems,	Waterberg District Municipality	2009

	<p>ensure conservation and sustainable management of the biosphere and other conservation areas.</p> <p>3. The promotion of tourism development: identify tourism development opportunities, ensure linkages to tourism development areas, and recognise the important role the private sector and land owners play in tourism development.</p>		
Lephalale Local Municipality Integrated Development Plan	Tourism is one of three key clusters in the Lephalale LM, and the importance thereof, is likely to continue to grow. This is likely to be related to the hunting and ecotourism industries. The location of Lephalale provides unique opportunities for economic development and tourism in particular. The area is renowned for hunting, wildlife, scenic beauty and nature reserves. The LM has identified key projects to aid in the development of tourism inclusive of tourism awareness campaigns, infrastructure to tourism routes and destinations.	Lephalale Local Municipality	2014-2016
Waterberg District Environmental Management Framework	The Waterberg Biosphere Reserve, as recognized by UNESCO, provides an opportunity to promote biodiversity conservation, as well as, advancing ecotourism. The Waterberg EMF identifies environmental management zones of which zones 1 (protection of natural vegetation, scenic landscape and rock painting areas, with limited appropriate tourism) and zone 2 (nature and cultural tourism focus areas within a high quality natural setting) have relevance.	Waterberg District Municipality	2010

## 11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 11(a) Solid waste management

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

	NO
--	----

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

	m <sup>3</sup>
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How will the construction solid waste be disposed of (describe)?

Not applicable as no solid waste will be generated during the runway expansion or construction of the access road.

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

Not applicable as no solid waste will be generated during the runway expansion or construction of the access road.

Will the activity produce solid waste during its operational phase?

	NO
--	----

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

	m <sup>3</sup>
--	----------------

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

Not applicable as no solid waste will be generated.

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

Not applicable as no solid waste will be generated.

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 department 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 relevant legislation?

	NO
--	----

If yes, inform the department and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

	NO
--	----

If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

### 11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

	NO
--	----

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

	m <sup>3</sup>
--	----------------

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

	NO
--	----

If yes, the applicant should consult with the Department 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?	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:

Not applicable as the proposed project entails the expansion of an aircraft runway and development of an access road.
---

**11(c) Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?	NO
If yes, is it controlled by any legislation of any sphere of government?	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.

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

No emissions, other than that of exhaust emissions and dust associated with the removal of stabilizing vegetation will be released into the atmosphere.
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**11(d) Generation of noise**

Will the activity generate noise?	YES
If yes, is it controlled by any legislation of any sphere of government?	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.

If no, describe the noise in terms of type and level:

Standard construction noise (i.e. heavy vehicles and site work) will occur during the construction phase. During operations, noise will be intermittent based on aircrafts landing and taking off as well as vehicles that will be using the access road.
---

**12. 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	<b>the activity will not use water</b> ✓
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

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

Does the activity require a water use permit from the Department of Water Affairs?

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

### 13. ENERGY EFFICIENCY

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

Not applicable as the proposed project entails the expansion of an aircraft runway and development of an access road, neither of which will require any energy.

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

Not applicable as the proposed project entails the expansion of an aircraft runway and development of an access road, neither of which will utilize any energy.

## 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 C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C 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

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:	Game 1014 LR Portion 1 and 2 of the Farm Frischgewaagd 649 LR  (Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.
Nearest Town	Vaalwater  In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.
Current land-use zoning:	Agriculture  In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	<input checked="" type="checkbox"/> NO
Must a building plan be submitted to the local authority?	<input checked="" type="checkbox"/> NO

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 indication of the project site position as well as the positions of the alternative sites, if any;
- 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, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

Please refer to Appendix A.1 for a broad locality map.

## 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Runway:

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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Road:

Flat	1:50 – 1:20	1:20 – 1:15	<b>1:15 – 1:10</b>	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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## 2. LOCATION IN LANDSCAPE

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

Runway:

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

Road:

2.1 Ridgeline	X	2.6 Plain	
---------------	---	-----------	--

2.2 Plateau		2.7 Undulating plain / low hills	X
2.3 Side slope of hill/mountain	X	2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

### 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

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

### 4. GROUNDCOVER

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).

Runway:

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

Road:

Natural veld in good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	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. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does 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:

Runway:

5.1 Natural area	X	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial <sup>AN</sup>		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam <sup>A</sup>		5.29 Sewage treatment plant <sup>A</sup>	
5.9 Light industrial		5.30 Train station or shunting yard <sup>N</sup>	
5.10 Heavy industrial <sup>AN</sup>		5.31 Railway line <sup>N</sup>	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport <sup>N</sup>	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station <sup>H</sup>		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	

Road:

5.1 Natural area	X	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial <sup>AN</sup>		5.26 Museum	
5.6 Office/consulting room		5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam <sup>A</sup>		5.29 Sewage treatment plant <sup>A</sup>	
5.9 Light industrial		5.30 Train station or shunting yard <sup>N</sup>	
5.10 Heavy industrial <sup>AN</sup>		5.31 Railway line <sup>N</sup>	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport <sup>N</sup>	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station <sup>H</sup>		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	X
5.17 Plantation		5.38 Nature conservation area	X
5.18 Agriculture		5.39 Mountain, koppie or ridge	X
5.19 Archaeological site	X	5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	X
5.21 Dam or Reservoir		5.42 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?

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

If YES, specify and explain:	
If NO, specify:	

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.

If YES, specify and explain:	
If NO, specify:	

## 6. CULTURAL/HISTORICAL FEATURES

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

YES

If YES, explain: No sites were recorded for the Runway, however, sites were recorded in the vicinity of the proposed road.

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

Briefly explain the findings of the specialist:

Road:

Please note that no Stone Age settlements, structures, features, assemblages or artefacts were recorded during the survey. While several rock art sites are known in the general region and more specifically, with in the Lapalala Wilderness Reserve, none were recorded near the survey area. Similarly, no Iron Age sites or features were recorded within the survey footprint.

Road:

A total of one possible Iron Age settlement (Site 1) was recorded during the survey. Only two surface scatters of hardened clay were recorded that might indicate the remains of Iron Age houses. No other deposits (middens) or structures were recorded in association. It is important to note that all archaeological sites are protected by the NHRA (Act No. 25 of 1999, Section 35) and as such the site must be clearly demarcated during the construction phase.

Please note that several Late Iron Age settlements are known to occur in the Lapalala Wilderness such as Melora Hilltop and Saddle sites. These sites are associated with early Northern Ndebele and Tswana occupation of the Waterberg region.

A historical two-room rectangular house was recorded (Site 2) built with stone and plaster. A single grave (Site 3) was also recorded. These features seem to indicate a period of occupation possibly dating to the late 19th century.

No Rock Art or Stone Age settlements, structures, features, assemblages or artefacts were recorded during the survey.

Archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during development activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf. NHRA (Act No. 25 of 1999), Section 36 (6)*).

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

NO

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

NO

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

Please Refer to Appendix D.1 for the full Heritage Report.

## 7. BIODIVERSITY

A Terrestrial ecology study and biodiversity value assessment was conducted by Ecorex in October 2019.

### - Flora

The study area is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Vegetation structure comprises low to mid-high woodland that is dominated by deciduous, broad-leaved tree species, and has a grass-dominated herbaceous layer. Soils are mostly sandstone, subordinate conglomerate, siltstones and shale of the Kransberg Subgroup. Dominant canopy species within this vegetation type include *Burkea africana*, *Combretum apiculatum*, *Acacia caffra* and *Acacia robusta*. Other commonly recorded tree species include *Heteropyxis natalensis*, *Combretum molle*, *Pseudolachnostylis maprouneifolia* and *Terminalia sericea*. Common shrubs include *Dichrostachys cinerea*, *Euclea crispa* and *Olea capensis*. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened** because of a low level of transformation (3%) and because 9% of the protection target of 24% is conserved in Marakele National Park and Moepel Nature Reserve.

The project area is not situated within any centres of plant endemism as defined by Van Wyk & Smith (2001).

While the Terrestrial Ecosystem Status of the vegetation types in the study area is Not Currently Threatened, the Limpopo Province Biodiversity Conservation Assessment (LPBCA) classifies most of the study area and general surroundings as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013).

Two untransformed vegetation communities were identified within the study area on the basis of distinctive vegetation structure (grassland, woodland, thicket, etc.), floristic composition (dominant and diagnostic species) and position in the landscape (mid-slopes, terrace, crest, etc.). These communities are described in detail below (alien plant species are indicated by an asterisk).

### Maytenus albata – Spirostachys africana Rocky Woodland:

Rocky Woodland is found across the sandstone ridges that occur at both proposed developments. At the proposed Lapalala runway extension, it is found at the very far northern portion on the steep ridge adjacent to the Lapalala Headquarters, and at the Wilderness School access road it occurs over most of the site on the rocky ridge above the terrace below. Rocky Woodland covers 0.9 ha which equates to approximately 28% of the area surveyed. Vegetation structure is Low to Tall Closed Woodland (*sensu* Edwards, 1983). The trees *Maytenus albata* and *Spirostachys africana* dominate the canopy, which supports a fairly diverse variety of trees. Other common canopy species include *Kirkia acuminata*, *Combretum zeyheri*, *Olea europaea* subsp. *africana*, *Pappea capensis*, *Acacia gerrardii*, *Englerophytum magalismsontanum*, *Ziziphus mucronata*, *Mimusops zeyheri*, *Peltophorum africanum* and *Lannea discolor*. The understory is dominated by the shrubs *Pyrostria hystrix*, *Croton gratissimus*, *Euclea natalensis* subsp. *angustifolia*, *Gymnosporia maranguensis*, *Grewia bicolor*, *G. flavescens* and *Dichrostachys cinerea* subsp. *africana*. Grasses are relatively scarce but include *Elionurus muticus* and *Panicum maximum*. Herbaceous plants were not abundant due to winter dormancy but included *Hypoestes forsskaolii*.

A total of 55 species (65% of the entire list) was recorded from Rocky Woodland during fieldwork; the lower of the two communities present. Species fidelity is high, with 26 species (48% of the community list) occurring nowhere else in the study area. One SCC was recorded, namely *Elaeodendron transvaalense* which is classified as **Near Threatened** and is **protected** under the NFA. Additionally, the tree *Spirostachys africana* is **protected** under the LEMA and the small tree *Combretum nelsonii* is endemic to Limpopo.

### Terminalia sericea – Combretum zeyheri Plains Woodland:



This vegetation community is situated on level plains above the rocky ridges at both of the proposed development sites. Vegetation structure is mostly Short Closed Woodland (*sensu* Edwards, 1983) and characterised by a moderate diversity of deciduous trees and shrubs. The trees *Terminalia sericea* and *Combretum zeyheri* are the dominant large trees in the canopy. Other common trees include *Burkea africana*, *Combretum apiculatum*, *C. hereroense*, *Pseudolachnostylis maprouneifolia*, *Peltoporum africanum* and *Ziziphus mucronata*. The shrubs *Euclea natalensis* subsp. *angustifolia*, *Dichrostachys cinerea* subsp. *africana* and *Grewia flavescens* are dominant below the canopy. Grasses are represented by *Aristida adscensionis*, *A. congesta* subsp. *barbicollis*, *A. meridionalis*, *Eragrostis* sp. and *Loudetia simplex*. Herbs were mostly dormant at the time of the survey but did include *Psiadia punctulata* and *Polydora poskeana*.

Fifty-nine species (69% of the entire list) were recorded from Plains Woodland although a wet season survey would significantly increase this total with the addition of herbaceous species. No SCC were recorded, but the tree *Sclerocarya birrea* is **protected** under the NFA.

#### - Fauna

The study area is situated within the savanna biome within the c. 45 000 ha Lapalala Wilderness which is home to a wide diversity of naturally occurring and re-introduced mammal species, including many threatened species such as Black Rhinoceros (*Diceros bicornis minor*) and Hippopotamus (*Hippopotamus amphibius*). The mammal diversity for the reserve is **high**, although this includes small mammals such as rodents, insectivores and bats, most of which would not be located through active searching methods employed during daylight.

The proposed Lapalala Wilderness School access road is situated adjacent to the Lapalala Wilderness in an area used primarily for cattle ranching. Although still supporting common and widespread mammal species, this area does not provide refuge for larger SCC such as Elephant *Loxodonta africana* and Black Rhinoceros.

Fourteen mammal species were confirmed to occur within the two sites during fieldwork. Some are common and widespread savanna species such as Scrub Hare *Lepus saxatilis*, Vervet Monkey *Chlorocebus pygerythrus*, Chacma Baboon *Papio ursinus*, Impala *Aepyceros melampus* and Tree Squirrel *Paraxerus cepapi*. Two confirmed SCC, namely Sable *Hippotragus niger* (**VU**) and Roan *Hippotragus equinus* (**EN**) are confined to breeding enclosures along the proposed runway extension and will not be considered for the EI assessment.

A total of 35 conservation-important mammals potentially occur within the general vicinity of the proposed development footprints. Of these, 19 species are considered to be SCC. Apart from the captive-bred Sable and Roan, only two of these were confirmed during fieldwork, namely African Elephant *Loxodonta Africana* (**VU**) and Brown Hyaena *Parahyaena brunnea* (**NT**).

#### - Birds

The study area, situated within the quarter-degree grid 2328 CD, has had 216 species recorded to date by the second Southern African Bird Atlas Projects (SABAP2). The study area falls within the Waterberg System Important Bird & Biodiversity Area (IBA) and qualifies as a Global IBA.

Fifteen bird SCC potentially occur within the general vicinity of the study area. None of these were recorded during fieldwork and none are expected to regularly occur within the potential development sites due to a lack of suitable habitat, high human disturbance levels or regional rarity.

#### - Reptiles

The Waterberg, including Lapalala Wilderness Reserve, supports a very **high diversity** of reptile species, with diversity levels ranking in the top 10% of all areas in South Africa. The two reptile groups showing the highest

diversity include the lizards (20-41 species per QDS) and snakes (13-19 species per QDS) (Bates et al., 2014). Reptile endemism is moderate, with at least five endemic species present in the general area (Bates et al., 2014). Seventy-six species of reptiles have been recorded from the entire degree grid 2328.

Two reptiles were recorded during fieldwork, namely Variable Skink *Trachylepis varia* and Bushveld Lizard *Heliobolus lugubris*, both of which are common and widespread in South Africa (Bates et al., 2014).

None of the potentially occurring reptile SCC are likely to be found within the study area due to a lack of suitable habitat or are unrecorded from Lapalala. Southern African Python *Python natalensis* is **protected** under the NEMBA ToPS and is likely to occasionally forage within the study area.

#### - Frogs

The Lapalala area supports a **moderately high** diversity of frog species, with levels of 11-20 species per QDS1. Frog endemism, however, is **very low** with no potentially occurring endemic species present in the area (Minter et al., 2004). Twenty-five frog species have been recorded from the degree grid 23282 and, on a finer scale, 14 have been recorded from the QDS 2328 CD3, within which the study area is situated.

No frogs were recorded during the assessment, primarily due to a lack of aquatic habitat present within the study area.

Please refer to Appendix D.2 for the full report.

## 8. PALAEOLOGICAL

A desktop Palaeontological Impact Assessment was conducted in November 2019 for the Runway and Road.

The proposed site lies on the fluviially deposited sandstones and conglomerates of the Mokalakwena Formation, Waterberg Group, some 2000-1800 million years. No fossils have been recorded from this Formation, and confirmed in the Limpopo Palaeotechnical Report, however the SAHRIS Palaeosensitivity map indicates that the area is moderately sensitive. Trace fossils of microbial structures have been reported from the underlying Makgabeng Formation but that formation does not occur here. Only because of the indication by the SAHRIS map a Fossil Chance Find Protocol should be added to the EMPr. Based on this information it is recommended that no palaeontological site visit is required and the project can proceed.

Please refer to Appendix D.3 for the full report

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—

- (i) the site where the activity to which the application relates is or is to be undertaken; and
- (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  - (vii) any other party as required by the department;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
  - (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;

- (iii) the nature and location of the activity to which the application relates;
- (iv) where further information on the application or activity can be obtained; and
- (v) the manner in which and the person to whom representations in respect of the application may be made.

### 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices must make provision for all alternatives.

### 4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the department to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

- A list of interested and affected parties (I&APs), as well as, compliance authorities was compiled inclusive of Local and District Municipalities and local landowners
- Written notification of the proposed development, including a background information document, was sent to all identified I&AP's and Compliance Authorities on 09 September 2019 and 11 October 2019.
- A printed advertisement was placed in the Mogol Post, a local publication, on the 6 September 2019 and 11 October 2019.
- Site notices were placed at the main entrances to the affected property on 10, 11 September 2019 and 15 October 2019.
- The DBAR was circulated for a comment period of 30 days on 23 January 2020.

### 5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

Please refer to Appendix E for the comments and response report.

## 6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Please refer to Appendix E.4 for a full list of stakeholders.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

Name of Authority informed:	Comments received (Yes or No)
Lephalale Local Municipality	No
Waterberg District Municipality	No
LEDET	Yes
DWS	No

## 7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or 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 department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?

YES	<input checked="" type="checkbox"/>
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Comment was received from LEDET and SAHRA. Please refer to Appendix E for the comments and response report.

## SECTION D: IMPACT ASSESSMENT

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

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

No issues have been raised to date. Please refer to Appendix E for comments received by the Competent Authority.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

No issues have been raised to date. Please refer to Appendix E for comments received by the Competent Authority and the responses.

### 2. 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

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) 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.

All potential environmental impacts, both positive and negative, have been identified for the entire lifecycle of the project i.e. planning / design, construction and operations. The decommissioning of the proposed development is not anticipated and has therefore not been assessed.

Activity	Impact summary	Significance (post mitigation)	Proposed mitigation / comments
<b>Alternative 1 (Preferred Alternative)</b>			
Planning and Design Phase	<i>Direct impacts:</i>		
	<b>Ground Water</b>		
	None.		
	<b>Surface Water</b>		
	None.		•
	<b>Soil</b>		
	Erosion risk to soils	30 L	• EMPr section 7.1 • EMPr section 7.2
	<b>Air</b>		
	None.		
<b>Biodiversity (Flora)</b>			
Risk to critical biodiversity areas	27 L	• EMPr section 7.1	

	Risk to Waterberg Mountain Bushveld vegetation	30 L	• EMPr section 7.2	
	Risk to Conservation Important Species and protected trees.	30 L		
	Risk of invasion of natural habitat by alien plants	18 L		
	<b>Biodiversity (Fauna)</b>			
	Risk to faunal habitat for the confirmed conservation-important species	27 L	• EMPr section 7.1  • EMPr section 7.2	
	Risk to faunal species of conservation concern owing to aircraft and vehicles.	18 L		
	Risk of habitat fragmentation	21 L		
	<b>Land use and agricultural potential</b>			
	None.			
	<b>Heritage</b>			
	Risk to Iron Age Settlements and the Historical House	12 N	• EMPr section 7.1	
	Risk of destruction of the grave	28 L		
	<b>Visual</b>			
	Risk to visual quality of the surrounding area and sense of place due to the development of structures and infrastructure within an otherwise natural environment.	20 L	• EMPr section 7.2 • EMPr section 7.3	
	<b>Socio-economic</b>			
	None.			
	<b>Municipal services and traffic</b>			
	None.			
	<b>Indirect impacts:</b>			
	None.			
	<b>Cumulative impacts:</b>			
	<b>Biodiversity (Flora)</b>			
	Cumulative loss of Waterberg Mountain Bushveld vegetation	27 L	• EMPr section 7.1 • EMPr section 7.2	
Cumulative loss of CBA 1	27 L			
Cumulative reduction of Conservation Important Species and protected trees	30 L			
<b>Biodiversity (Fauna)</b>				
Cumulative loss of faunal habitat	20 L	• Same as above		
<b>Heritage</b>				
Cumulative loss of Late Iron Age sites	20 L	• Same as above		
Construction Phase	<b>Direct impacts:</b>			
<b>Ground water</b>				
Depletion of ground water	14 L	• EMPr section 8.1 • EMPr section 8.2 • EMPr section 8.3 • EMPr section 8.7		
Pollution and contamination of ground water	14 L			
<b>Surface water</b>				
None.				
<b>Soil</b>				
Soil contamination and pollution.	18 L	• EMPr section 8.1		

Soil erosion via wind and rain.	27 L	<ul style="list-style-type: none"> <li>• EMPr section 8.2</li> <li>• EMPr section 8.3</li> <li>• EMPr section 8.4</li> <li>• EMPr section 8.5</li> <li>• EMPr section 8.7</li> <li>• EMPr section 8.10</li> </ul>
<b>Air</b>		
Air pollution due to emissions from construction vehicles and equipment.	21 L	<ul style="list-style-type: none"> <li>• EMPr section 8.2</li> <li>• EMPr section 8.4</li> </ul>
Generation of dust owing to construction activities.	21 L	<ul style="list-style-type: none"> <li>• EMPr section 8.5</li> <li>• EMPr section 8.7</li> </ul>
Smoke from open fires	14 L	<ul style="list-style-type: none"> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> <li>• EMPr section 8.10</li> </ul>
<b>Biodiversity (Flora)</b>		
<i>Removal of exotic and declared invader species (positive impact).</i>	30 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> </ul>
Loss of critical biodiversity areas	36 M	<ul style="list-style-type: none"> <li>• EMPr section 8.3</li> <li>• EMPr section 8.4</li> </ul>
Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	24 L	<ul style="list-style-type: none"> <li>• EMPr section 8.5</li> <li>• EMPr section 8.6</li> <li>• EMPr section 8.7</li> </ul>
Destruction and damage to Conservation Important Species and protected trees	30 L	<ul style="list-style-type: none"> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> <li>• EMPr section 8.10</li> </ul>
Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas.	18 L	
<b>Biodiversity (Fauna)</b>		
Loss of faunal habitat which acts as a wildlife corridor	27 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> </ul>
Fauna mortality	14 L	<ul style="list-style-type: none"> <li>• EMPr section 8.3</li> <li>• EMPr section 8.5</li> </ul>
Poaching and snaring of faunal species by construction workers.	18 L	<ul style="list-style-type: none"> <li>• EMPr section 8.6</li> <li>• EMPr section 8.7</li> </ul>
Increased opportunity for smuggling of poached items.	18 L	<ul style="list-style-type: none"> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> <li>• EMPr section 8.10</li> </ul>
<b>Land use and agricultural potential</b>		
None		
<b>Heritage</b>		
<i>Possible discovery of new important artefacts (positive impact)</i>	24 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> </ul>
Damage to and / or destruction of archaeological and historical artefacts located to the east of the site during construction	20 L	
Damage to and/or destruction of Late Iron Age settlements	10 N	
Damage to and/or destruction of the historical house	20 L	
Damage to and/or destruction of the grave	24 L	
<b>Visual</b>		
Visual impact of construction, lighting and dust on sensitive visual receptors	14 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> </ul>



owing to the presence of construction equipment, camps and workers.		<ul style="list-style-type: none"> <li>• EMPr section 8.2</li> <li>• EMPr section 8.3</li> </ul>
Visual impact of construction, lighting and dust on conservation areas within the region (Waterberg Biosphere Reserve).	12 N	<ul style="list-style-type: none"> <li>• EMPr section 8.4</li> <li>• EMPr section 8.5</li> <li>• EMPr section 8.6</li> <li>• EMPr section 8.7</li> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> <li>• EMPr section 8.10</li> </ul>
<b>Socio-economic</b>		
<i>Stimulation of the local economy, especially the local service delivery industry (positive impact)</i>	24 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> <li>• EMPr section 8.7</li> </ul>
Noise, dust and safety impacts and disturbance to adjacent landowners	21 L	<ul style="list-style-type: none"> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> </ul>
An increase in construction workers and associated increase in social problems for the community	16 L	
Increase in casual workers and associated increase in poaching.	12 N	
Increased risk of veld fires	21 L	
<b>Municipal services and traffic</b>		
Increase in traffic on the surrounding local roads	14 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> </ul>
Increase in the number and frequency of construction vehicles accessing the site	15 L	<ul style="list-style-type: none"> <li>• EMPr section 8.7</li> <li>• EMPr section 8.8</li> </ul>
<b>Indirect impacts:</b>		
<b>Biodiversity (Flora)</b>		
Loss of floral biodiversity, Conservation Important species and protected trees	16 L	<ul style="list-style-type: none"> <li>• As above</li> </ul>
<b>Biodiversity (Fauna)</b>		
Loss of faunal biodiversity	20 L	<ul style="list-style-type: none"> <li>• As above</li> </ul>
<b>Socio-economics</b>		
Loss of property and threat to human life	16 L	<ul style="list-style-type: none"> <li>• As above</li> </ul>
<b>Traffic and Services</b>		
Degradation of local roads due to the increase in the numbers of heavy vehicles.	21 L	<ul style="list-style-type: none"> <li>• As above</li> </ul>
<b>Cumulative impacts:</b>		
<b>Biodiversity (Flora)</b>		
Cumulative loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	27 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> <li>• EMPr section 8.3</li> </ul>
Loss of critical biodiversity areas	39 M	<ul style="list-style-type: none"> <li>• EMPr section 8.4</li> <li>• EMPr section 8.5</li> </ul>
Cumulative reduction and damage to Conservation Important Species and protected trees	24 L	<ul style="list-style-type: none"> <li>• EMPr section 8.6</li> <li>• EMPr section 8.7</li> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> <li>• EMPr section 8.10</li> </ul>
<b>Biodiversity (Fauna)</b>		
Cumulative loss of faunal habitat	24 L	<ul style="list-style-type: none"> <li>• As above</li> </ul>

	<b>Heritage</b>		
	Cumulative loss of Late Iron Age sites	22 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> </ul>
	<b>Socio-economic</b>		
	<i>Community upliftment and the opportunity to increase the skill level in the area (positive impact).</i>	24 L	<ul style="list-style-type: none"> <li>• EMPr section 7.4</li> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> <li>• EMPr section 8.7</li> <li>• EMPr section 8.8</li> <li>• EMPr section 8.9</li> </ul>
	<b>Services and traffic</b>		
Cumulative increase in traffic and the resultant noise, dust, and safety impacts on other road users	16 L	<ul style="list-style-type: none"> <li>• EMPr section 8.1</li> <li>• EMPr section 8.2</li> <li>• EMPr section 8.7</li> <li>• EMPr section 8.8</li> </ul>	
Operational Phase	<b>Direct Impacts:</b>		
	<b>Ground water</b>		
	Depletion of ground water resources (water quality)	22 L	<ul style="list-style-type: none"> <li>• EMPr section 9.1</li> <li>• EMPr section 9.2</li> </ul>
	Pollution and contamination of ground water	22 L	<ul style="list-style-type: none"> <li>• EMPr section 9.3</li> <li>• EMPr section 9.4</li> <li>• EMPr section 9.5</li> </ul>
	<b>Surface water</b>		
	None.		
	<b>Soil</b>		
	Pollution and contamination of the soil	18 L	<ul style="list-style-type: none"> <li>• EMPr section 9.1</li> <li>• EMPr section 9.2</li> </ul>
	Soil erosion	18 L	<ul style="list-style-type: none"> <li>• EMPr section 9.3</li> <li>• EMPr section 9.4</li> <li>• EMPr section 9.5</li> </ul>
	<b>Air</b>		
	Air pollution by emissions from increased numbers of vehicles and aircrafts.	36 M	<ul style="list-style-type: none"> <li>• EMPr section 9.5</li> </ul>
	<b>Biodiversity (Flora)</b>		
	Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness	18 L	<ul style="list-style-type: none"> <li>• EMPr section 9.1</li> <li>• EMPr section 9.2</li> <li>• EMPr section 9.3</li> </ul>
	Loss of critical biodiversity areas	27 L	<ul style="list-style-type: none"> <li>• EMPr section 9.4</li> <li>• EMPr section 9.5</li> </ul>
	Destruction and damage to Conservation Important Species and protected trees.	20 L	<ul style="list-style-type: none"> <li>• EMPr section 9.6</li> </ul>
	Increase in exotic vegetation/alien species and bush encroachment into disturbed soils and areas in the event that the rehabilitation process is not successful	18 L	
	<b>Biodiversity (Fauna)</b>		
	Loss of faunal habitat.	18 L	<ul style="list-style-type: none"> <li>• EMPr section 9.1</li> <li>• EMPr section 9.2</li> </ul>
	Faunal disturbances and changes in distribution and abundance.	27 L	<ul style="list-style-type: none"> <li>• EMPr section 9.3</li> <li>• EMPr section 9.4</li> </ul>
	Faunal mortality	20 L	<ul style="list-style-type: none"> <li>• EMPr section 9.5</li> <li>• EMPr section 9.6</li> </ul>
Poaching and snaring of fauna by staff.	24		

	L	
<b>Land use and agricultural potential</b>		
None.		
<b>Heritage</b>		
Damage to and / or destruction of archaeological, paleontological or historical artefacts	18 L	• EMPr section 9.1
Damage to and/or destruction of Late Iron Age sites	20 L	
Damage to and/or destruction of the Historical House and Grave	28 L	
<b>Visual</b>		
Potential visual impact on sensitive visual receptors in close proximity to the proposed developments.	21 L	• EMPr section 9.5
Potential visual impact on sensitive visual receptors within the region	16 L	
Potential visual impact on protected and conservation area	8 N	
<b>Socio-economic</b>		
<i>Stimulation of the local economy, especially the local service delivery industry (positive impact)</i>	22 L	• EMPr section 9.5
<i>Creation of long term employment and business opportunities as well as opportunities for skills development and transfer (positive impact)</i>	30 L	
<i>Creation of opportunities for local SMME's (positive impact)</i>	20 L	
Impact on adjacent land uses and activities	8 N	
<b>Service and traffic</b>		
None.		•
<b>Indirect impacts:</b>		
<b>Visual</b>		
The potential visual impact of the development on the visual character of the landscape and sense of place of the region (particularly the Waterberg Biosphere Reserve).	8 N	• EMPr section 9.5
<b>Cumulative impacts:</b>		
<b>Biodiversity (Flora)</b>		
Cumulative loss of Loss of Waterberg Mountain Bushveld vegetation and associated loss of species richness.	20 L	• EMPr section 9.1 • EMPr section 9.2 • EMPr section 9.3
Cumulative loss of CBA 1.	20 L	• EMPr section 9.4 • EMPr section 9.5
Cumulative reduction and damage to Conservation Important Species and protected trees.	28 L	• EMPr section 9.6
<b>Heritage</b>		
Cumulative loss of archaeological, paleontological or historical artefacts.	24 L	• EMPr section 9.1
<b>Visual</b>		
Accumulation of built infrastructure in a natural environment.	16 L	• EMPr section 9.5
<b>Socio-economic</b>		

	Creation of permanent employment and skills and development opportunities for members from the local community and creation of additional business and economic opportunities in the area. (positive impact)	33 M	• As above
	Promotion of social and economic development in the local communities (positive impact)	27 L	
	Services and traffic		
	None.		
Decommissioning phase			
None			

### 3. 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.

#### Preferred Alternative

Lapalala Wilderness Reserve and the Lapalala School property is situated within the Waterberg Mountain Bushveld vegetation type, which is in the Central Bushveld Bioregion of the Savanna Biome. Waterberg Mountain Bushveld was assessed by Mucina & Rutherford (2006) as **Least Threatened**.

Lapalala Wilderness Reserve and Lapalala School is not situated in any floristic centres of endemism and is not listed as a Threatened Ecosystem.

The Limpopo Province Biodiversity Conservation Assessment classifies the proposed Runway expansion Site and Proposed Lapalala School Access Road Site as a **Critical Biodiversity Area 1 (CBA1)**. CBA1's are described as **Irreplaceable Sites** that are required to meet biodiversity pattern and/or ecological processes targets (Desmet et al., 2013).

One plant Species of Conservation Concern was recorded during fieldwork, namely *Elaeodendron transvaalense* (Near Threatened) and is **protected** under the National Forests Act (No. 30 of 1998). Additionally, the trees *Spirostachys africana* and *Sclerocarya birrea* are **protected** under the LEMA and NFA respectively and the small tree *Combretum nelsonii* is endemic to Limpopo.

Two confirmed **SCC**, namely Sable *Hippotragus niger* (**VU**) and Roan *Hippotragus equinus* (**EN**) are confined to breeding enclosures along the proposed runway extension.

All efforts will be made to avoid the identified SCC and Protected trees located within the development footprint for the proposed runway expansion. However, if this is not possible due to safety reasons, then a permit will be applied for in order to remove the trees. Similarly, the proposed access road to the Lapalala School will be walked on site prior to construction where all SCC and protected trees will be marked and the alignment shifted where possible. If not, then a permit will be applied for in order to remove the trees.

No cultural heritage sites were recorded within the proposed runway expansion site, however, 2 heritage sites were recorded in close proximity to the proposed access road to the Lapalala School.

#### Statement:

The proposed development sites are acceptable for development and are not fatally flawed in any way. The

construction impacts, if effectively managed according to the mitigation measures proposed in this report, the specialist reports and the draft EMPr will have a **low** residual significance rating. **Moderate** post mitigation significance ratings are anticipated in terms of the loss of areas classified as CBA1 due to vegetation clearing.

Similarly, operational impacts can also be mitigated and will result in **low** post mitigation significance ratings with the exception of air pollution from aircrafts and vehicles resulting in a moderate post mitigation significance rating.

Positive impacts include job creation and employment opportunities for both the construction phase, as well as, skills transfer and development.

In light of the above discussion, it is recommended that the proposed Runway Expansion at Lapalala Wilderness Reserve and the proposed access road to the Lapalala School be supported on the condition that all mitigation measures mentioned in this report, the specialist reports and the draft EMPr are implemented and adhered to throughout the project lifecycle.

### No-go alternative (compulsory)

The No-go Alternative implies that the proposed expansion of the runway at Lapalala Wilderness Reserve and the construction of the access road to Lapalala School will not take place. In this scenario, the receiving environment will not be impacted upon negatively in any manner, with particular reference to protected flora, loss of CBA and impact on heritage resources.

However, it should also be noted that no positive impacts will be realized such as job creation and employment opportunities, skills transfer and development.

This would not be ideal owing to the high unemployment rate in the local municipality and the fact that the majority of the population lives in a rural environment. Additionally, direct employment benefits and community beneficiation will not materialize.

In light of the above, as well as the fact that all negative impacts can be adequately mitigated and managed, it is not recommended that the No-go Alternative be supported.

## 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	<input checked="" type="checkbox"/>
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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 department in respect of the application:

The proposed expansion of proposed Runway Expansion at Lapalala Wilderness Reserve and the proposed access road to the Lapalala School will take place in Waterberg Mountain Bushveld, which was assessed by Mucina & Rutherford (2006) as **Least Threatened**.

As discussed in the preceding section, all significant negative impacts can be successfully mitigated and managed to acceptable levels (i.e. moderate to low) during all phases of the proposed development, and at all development sites.

All mitigation measures as detailed in this BAR, the attached Specialist Impact Assessments and the Draft Environmental Management Programme (EMPr) must be implemented and adhered for the duration of the project lifecycle (i.e. during the planning, construction and operational phases).

In addition, the following specific recommendations apply:

#### Planning and Design Phase:

- The sensitivity map must be used as a decision tool to guide the layout design for the proposed Runway Expansion and access road.
- Prior to any construction at any of the sites, an experienced botanist should conduct a walk-through of these sites during the wet season (Dec-Apr), marking each plant species of conservation concern to be avoided or that may need to be relocated prior to any site clearance activity taking place.
- A 30 m buffer to be established around the grave site found near the proposed access road.
- The infrastructure layout should be designed to avoid each of the conservation important trees spatially represented in the sensitivity map.
- All proposed roads to contain adequate stormwater drainage and erosion control measures.

#### Construction Phase:

- Wherever possible, trees taller than 5 m or with a diameter at breast height of 30 cm should be left unharmed, whether protected by law or not.
- Poaching could be a significant threat. If any external labour teams are used during construction, then these teams should preferably be accommodated off site; if this is not possible then teams should be carefully monitored to ensure that no unsupervised access to plant and animal resources takes place.
- If archaeological or historical 'chance finds' are encountered, then work in the area must be halted, and a heritage specialist must be called to assess the situation and make recommendations.
- A 30 m buffer to be placed and maintained around the grave site located near to the access road.

#### Operational Phase:

- Regulate and control movement over the site. Personnel, vehicles and equipment to move along designated routes.
- The proposed runway extension should be adequately fenced off from all larger mammals, including the existing Sable and Roan found in the breeding camps, to prevent loss of both human and animal life through collisions with aircraft.
- Ensure that all conserved species and specimens are suitably protected for the duration of the operational phase.
- No protected trees or plants may be removed without the relevant permits from the local authority.
- Management measures to eradicate and control alien plants need to be informed by the properties invasive species management program.
- Grounds staff should be trained to recognize and eradicate potential invasive plants.
- Ensure that staff are made aware of the occurrence of the heritage resources located nearby, what they

look like and where they are to be found.

Assuming that the above recommendations are implemented and adhered to, there is no reason why the proposed Runway Expansion at Lapalala Wilderness Reserve and the proposed access road to the Lapalala School should not take place. The Environmental Assessment Practitioner recommends that the development as proposed in the Preferred Alternative be supported.

Is an EMPr attached?

The EMPr must be attached as Appendix F.

YES

## SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

D.1: Heritage Impact Assessment

D.2: Terrestrial Ecology Report

D.3: Paleontological Impact Assessment

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: EMPr

Appendix H: Details of EAP

Appendix I: Additional Information



## SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, \_\_\_\_\_ declare that I –

- (a) act as the independent environmental practitioner in this application;
- (b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
- (c) do not have and will not have a vested interest in the proposed activity proceeding;
- (d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
- (e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
- (f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- (g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
- (h) will keep a register of all interested and affected parties that participated in a public participation process; and
- (i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

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**Signature of the Environmental Assessment Practitioner:**

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**Name of company:**

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**Date:**



## APPENDIX A: MAPS

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## APPENDIX B: PHOTOGRAPHS



## APPENDIX C: FACILITY ILLUSTRATIONS

N/A





APPENDIX D: SPECIALIST REPORT  
APPENDIX D.1: HERITAGE REPORT



## APPENDIX D.2: ECOLOGICAL IMPACT ASSESSMENT



## APPENDIX D.3: PALAEOLOGICAL ASSESSMENT



## APPENDIX E: PUBLIC PARTICIPATION





## APPENDIX F: EMPr



## APPENDIX G: IMPACT TABLES



## APPENDIX H: DETAILS OF EAP