DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

COMPILED FOR
NTT MOTORS 384 (PTY) LTD.:
Proposed Witwater Airfield on the Farm Rimarumi Ranch NO. K.R 948, Limpopo Province

NEAS REFERENCE NUMBER: LIM/EIA/0001794/2023

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REPORT DETAILS

Report Title	Draft Environmental Management Programme_Witwater Airfield September 2023
Report Number	Witwater_EMPR_22_2023
Ledet Ref. No.	LIM/E1IJ00017941202
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Report Revision	Draft Environmental Management Programme
Date of Report	October 2023

IMPORTANT NOTICE

This Environmental Management Programme Report (EMPr) has been prepared in line with Section 24N of the National Environmental Management Act, 107 of 1998 and the Environmental Impact Assessent Regulations (EIA) of 2014 as amended. The EMPr includes the following information:

- Details of-
  - the EAP who prepared the EMPr; and
  - the expertise of that EAP to prepare an EMPr, including a curriculum vitae;
- A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;
- A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;
- A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-
  - planning and design;
  - pre-construction activities;
  - construction activities;
  - rehabilitation of the environment after construction and in the case of a closure activity, closure; and
  - operation activities;
- A description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) will be achieved, and must, where applicable, include actions to-
  - avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
  - comply with any prescribed environmental management standards or practices; and
  - comply with any applicable provisions of the Act regarding closure in the case of a closure activity;
- The method of monitoring the implementation of the impact management actions;
- The frequency of monitoring the implementation of the impact management actions;
- An indication of the persons who will be responsible for the implementation of the impact management actions;
- The time periods within which the impact management actions must be implemented;
- The mechanism for monitoring compliance with the impact management actions;
- A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;
- An environmental awareness plan describing the manner in which-
  - the applicant intends to inform his or her employees of any environmental risk which may result from their work; and
  - risks must be dealt with in order to avoid pollution or the degradation of the environment; and
- Any specific information that may be required by the competent authority.

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ABBREVIATIONS

Abbreviation	Description
BPEO	Best Practicable Environmental Option
DEA	Department of Environmental Affairs
DFFE	Department of Fisheries, Forestry and Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act (Act 73 of 1989)
ECO	Environmental Control Officer
EM	Engineering Manager
EMPR	Environmental Management Programme
GA	General Authorisation
HPRI	High Potential Risk Incident
GNR	Government Notice Regulation
I&APs	Interested and Affected Parties
IDP	Integrated Development Programme
IEA	Integrated Environmental Authorisation
IEM	Integrated Environmental Management
IHAS	Invertebrate Habitat Assessment System
IHIA	Intermediate Habitat Integrity Assessment
IWUL	Integrated Water Use License
IWULA	Integrated Water Use License Application
LEDET	Limpopo Department of Economic Development, Environment and Tourism
MAMSL	Meter Above Mean Sea Level
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMAQA	National Environmental Management: Air Quality Act, 39 of 2004
NEMBA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
NEMWA	National Environmental Management: Waste Act (Act 59 of 2008)
NFA	National Forest Act (Act 84 of 1998)
NHRA	National Heritage Resources Act (Act 25 of 1999)
NWA	National Water Act (Act 36 of 1998)
PAIA	Promotion of Access to Information Act (Act 2 of 2000)
PAJA	Promotion of Administrative Justice Act (Act 3 of 2000)
PES	Present Ecological State
PM	Project Manager
READ	Rural, Environmental and Agricultural Department (READ)
ROD	Record of Decision – currently referred to as Environmental Authorisation
SAHRA	South African Heritage Resources Agency
SANRAL	South African National Roads Agency Limited
SASS	South African Scoring System
SHEQ	Safety, Health, Environment and Quality
SMME	South African Small, Medium and Micro Enterprise
WUL	Water Use License

1 INTRODUCTION

1.1 OVERVIEW OF THE PROJECT

Elemental Sustainability (Pty) Ltd. was appointed by NTT Motors 384 (Pty) Ltd. to undertake a Basic Assessment and General Authorisation Application processes for the proposed development of a runway and hanger on the Farm Rimarumi Ranch NO. K.R 948 located 50km WNE of Mokopane and 10km SW of Road R518 within the Modimolle/Mookgophong Local Municipality.

The proposed project entails but is not limited to the following:

- An approximately 1 400 m long, asphalt paved runway and 100 m gravel surfacing either end.
- 25 m x 25 m aircraft hangar, and
- Concrete hardstand in front of the hangar.

The clearings on either side of the surfaced runway will only be cleared from trees and gradually shaped, if required to tie in with the surface runway. The veld frass will be reinstated where removed and kept short.

This Environmental Management Programme (EMPR) has been compiled as a guideline for the mitigation and management measures to be implemented to reduce and minimise potential environmental impacts due to the proposed development and operation of the runway. The purpose of the EMPR is to give effect to precautionary measures, which are to be put in place for controlling/ managing the activities that take place on site and towards ensuring compliance with national legislative and regulatory requirements. Furthermore, the EMPR is compiled based on the findings of the relevant basic assessment process undertaken for the proposed development, as well as anticipated environmental management requirements. The EMPR is a working document that should be updated on a regular basis as and when necessary. The EMPR forms part of the documentation submitted to the Competent Authority (CA) for decision-making purposes and, therefore, forms part of the Environmental Authorisations (EA) and the provisions contained within this document become legally binding.

The EMPR is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the planning, construction, operation, decommissioning as well as rehabilitation and closure (if any) of a project are prevented; and that the positive benefits of the project are enhanced. An EMPR should also allow for risk minimization, rather than just ensuring legal compliance. The purpose of this EMPR is thus also to allow the user to make minor amendments to ensure continual revision and improvement of risk mitigation and management through the continual re-assessment of the risks associated with the activity.

A Basic Assessment (BA) process is being followed for this EA application due to the nature of the NEMA Listed Activities triggered by the proposed development activities (see Section 4 for details on the legislative requirements). The EIA process entails the submission of a BA Report and this EMPR to the LEDET towards decision-making regarding the EA application.

1.2 PURPOSE OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

Regulation 19 (4) (GNR 982) of the National Environmental Management Act (Act No. 107 of 1998 – NEMA)states that:

"*an EMPR must contain all information set out in Appendix 4 to these Regulations or must be a generic EMPR relevant to the application as identified and gazetted by the Minister in a government notice and, where the application is for an environmental authorisation is for prospecting, exploration, extraction of a mineral or petroleum resource including primary processing, or activities directly related thereto, the EMPR must contain attachments that address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of prospecting, exploration, mining or production operations, made in terms of the Act*".

Section 1.3 of this EMPR provides a detailed breakdown of the content requirements stipulated in Appendix 4 of GNR 982.

The EMPR is compiled following a thorough investigation into the receiving environment and the identification and assessment of likely environmental impacts (i.e. BA process). This EMPR was prepared through a comprehensive BA process and forms part of the application for the EA.

This EMPR shall be deemed to have contractual standing on the basis that its contents and specifically objectives are a detailed expansion of the environmental risks and consequent requirements of the EA. Where relevant the applicant is responsible for delegating responsibility for compliance to designated parties, whether internal or external. Such delegation is legally binding.

1.2 REPORT STRUCTURE

The EMPR must follow the requirements of Appendix 4 of the EIA Regulations (GNR 982) of 2014 as amended. Table 1 below provides a summary of the NEMA requirements for the contents of the EMPR.

Table 1: EMP Report Structure

Environmental Regulation	Description	Section in Report
NEMA Regulation 982 (2014)		
Appendix 4(1)(a):	Details of – i) The EAP who prepared the report; and ii) The expertise of the EAP, including a curriculum vitae;	Section 3
Appendix 4(1)(b):	A detailed description of the aspects of the activity that are covered by the EMPR as identified in the project;	Section 2
Appendix 4(1)(c):	A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	Section 2.2

Appendix 4(1)(d):	A description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including – i) Planning and design; ii) Pre-construction activities; iii) Construction activities; iv) Rehabilitation of the environment after construction and where applicable post closure; and v) Where relevant, operation activities;	Section 2
Appendix 4(1)(e):	A description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Section 8
Appendix 4(1)(f):	A description of proposed impact management actions, identifying the matter in which the impact management objectives and outcomes contemplated in paragraph (d) and (e) will be achieved, and must, where applicable, include actions to – i. Avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; ii. Comply with any prescribed environmental management standards or practices; iii. Comply with any applicable provisions for the Act regarding closure, where applicable; and iv. Comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	Sections 7 and 9
Appendix 4(1)(g):	The method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 8
Appendix 4(1)(h):	The frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 8
Appendix 4(1)(j)	An indication of the persons who will be responsible for the implementation of the impact management actions;	Section 5
Appendix 4(1)(j):	The time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 8

Appendix 4(1)(k):	The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 8
Appendix 4(1)(l):	A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 6
Appendix 4(1)(m)	An environmental awareness plan describing the manner in which – i. The Applicant intends to inform his or her employees of any environmental risk which may result from their work; and Risk must be dealt with in order to avoid pollution or the degradation of the environment;	Section 10
Appendix 4(1)(n)	Any specific information that may be required by the competent authority.	N/A

2 OBJECTIVES

The main objectives of the EMPR are as follows:

- To promote sustainability and provide an action programme to mitigate negative impacts as far as possible and ;
- The EMPR is a practical document which sets out goals and actions required for the mitigation of impacts. Though the term "mitigation" can be broad in definition, in this context it means to "allay, moderate, palliate, or intensify." Mitigation of a negative impact means that its effect is reduced. Mitigation of a positive impact means that its effect is increased or optimised; and
- To indicate responsibilities for the implementation of these action items within the programme.

This EMPR shall be deemed to have contractual standing on the basis that its contents and specifically objectives are a detailed expansion of the environmental risks and consequent requirements of the EA. Where relevant, the Applicant is responsible for delegating responsibility for compliance to designated parties (internal or external). Such delegation must be legally binding to the extent relevant.

The objectives and targets in this EMPR are guided by the NEMA, and specifically by GNR 982. Therefore, the underlying principles of sustainable development are the ultimate objectives and targets of this report. The EMPR has included measures to ensure the development activity complies with the following principles, as instilled in the NEMA, amongst others:

i) That the disturbance of ecosystems and loss of biological diversity are minimised and remedied;
ii) That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
iii) That waste is either avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner in accordance with the relevant legislation;
iv) That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

That negative impacts on the environment and on people's environmental rights be anticipated, prevented and remedied.

2.1 LEGAL MANDATE

This section identifies relevant laws and regulations that are applicable to the proposed runway and related activities. It provides an overarching understanding of how the different aspects of legislations define and integrate the different spheres of the environment. Understanding these will ensure long term and continued alignment with the NEMA principals. The applicant should ensure that legislation applicable to the development is kept up to date.

All project activities must abide to and comply with all South African legislation and regulations and this requirement must also be included in the Contractors' conditions. Should there be changes in legislation and/or regulations, then action will be taken to incorporate such changes and to pass these requirements on to the Contractors. Specific legislation that must be complied with is presented in Table 2 below.

Table 2: General Legislation

TITLE OF LEGISLATION	BROAD DESCRIPTION
National Environmental Management Act (Act No. 107 of 1998 - NEMA)	The NEMA, aims to protect the environment, and stipulates that development must be socially, environmentally and economically sustainable, and that disturbances and pollution of the environment must be avoided, minimised and remedied. The Act also provides for the equitable access to environmental resources, to meet basic human needs. Decisions on the environment must be taken in an open and transparent manner, and resources must be held in trust for the public and protected as such. NEMA also makes provision for the cost of remedying pollution, and all such costs shall be paid by the polluter.
National Water Act (Act No. 36 of 1998 - NWA)	NWA provides the law relating to the water resources of South Africa. The purpose of the NWA is to manage and control the means by which all water resources are protected, used, developed, conserved and controlled.
National Environmental Management: Air Quality Act (Act No. 39 of 2004 - NEMAQA)	NEMAQA is the main legislative tool for the management of air pollution and related activities. The objective of the Act is to protect the environment by providing reasonable measures for - the protection and enhancement of the quality of air in the Republic; the prevention of air pollution and ecological degradation; securing ecologically sustainable development while promoting justifiable economic and social development; and generally to give effect to Section 24(b) of the Constitution in order to

TITLE OF LEGISLATION	BROAD DESCRIPTION
	enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health and wellbeing of people.
National Environmental Management: Waste Act (Act No. 59 of 2008 – NEMWA)	The purpose of the NEMWA is - to prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development. In addition, sustainable development requires that the generation of waste is avoided, or where it cannot be avoided, that it is reduced, re-used, recycled or recovered and only as a last resort treated and safely disposed of.
National Environmental Management: Biodiversity Act (Act No. 10 of 2004 - NEMBA)	NEMBA "*provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters conducted therewith*".
National Heritage Resources Act (Act No. 25 of 1999 - NHRA)	NHRA provides for the protection of heritage resources of South Africa, which are of cultural significance or other special value by introducing an integrated and interactive system for the management of national heritage resources.
Conservation of Agricultural Resources Act (Act No. 43 of 1983 - CARA)	CARA deals with, amongst others, declared weeds and invaders in South Africa and categorises these species according to level of control required.
Hazardous Substances Act (Act No. 15 of 1973)	Deals with the proper handling and disposal of hazardous substances and required licences.
Municipal Systems Act (Act No. 32 of 2000)	Deals with the management and operation of municipal systems.
Occupational Health and Safety Act (Act No. 85 of 1993 - OHSA)	Deals with the health and safety of all workers and includes employer obligation towards the safety of workers.

The table below provides the listed activities and other environmental legislation for which the EA application for the airstrip development has to be submitted to the relevant competent authority, which in this case is LEDET.

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Authorisation	Regulation and Activity	Activity Description	Describe each listed activity as per project description[1]: e.g. Construction of a 600 mW generator
Environmental Authorisation	R983 (LN 1) Activity 27		Construction and operation of the 1400m long asphalt paved runway, 25 m x 25m hanger and gravel surfacing (100m on both ends of runway). Approximately 32626m^2 in total – 3.26 ha.
	R983 (LN 1) Activity 28 (ii)		Construction of the 1400m long asphalt paved runway, 25 m x 25m hanger and gravel surfacing (100m on both ends of runway). Approximately 32626m^2 in total – 3.26 ha.
	R983 (LN 1) Activity 30		Construction of the 1400m long asphalt paved runway, 25 m x 25m hanger and gravel surfacing (100m on both ends of runway) is located in CBA2 area and a private game reserve, as well as the Waterberg System IBA.
	R985 (LN3) Activity 4 (e) (i) (aa) (cc) (ee) (gg)		
	R985 (LN3) Activity 7(i) (dd) (ff) (gg) (ii)		
	R985 (LN3) Activity 12 (e) (i) (ii)		

2.2 PROJECT LOCALITY

The details of the project location are included in Table 3 below and Figure 1:

Table 3: Project Location Details

Property Details	Farm Rimarumi Ranch NO K.R. 948
SG Code	
Farm Size	The size of the Farm is 7,3 Ha however, the development footprint is 4,32 Ha
Local Municipality	Modimolle/Mookgophong Local Municipality
District Municipality	Waterberg District Municipality
Province	Limpopo Province

[1] 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

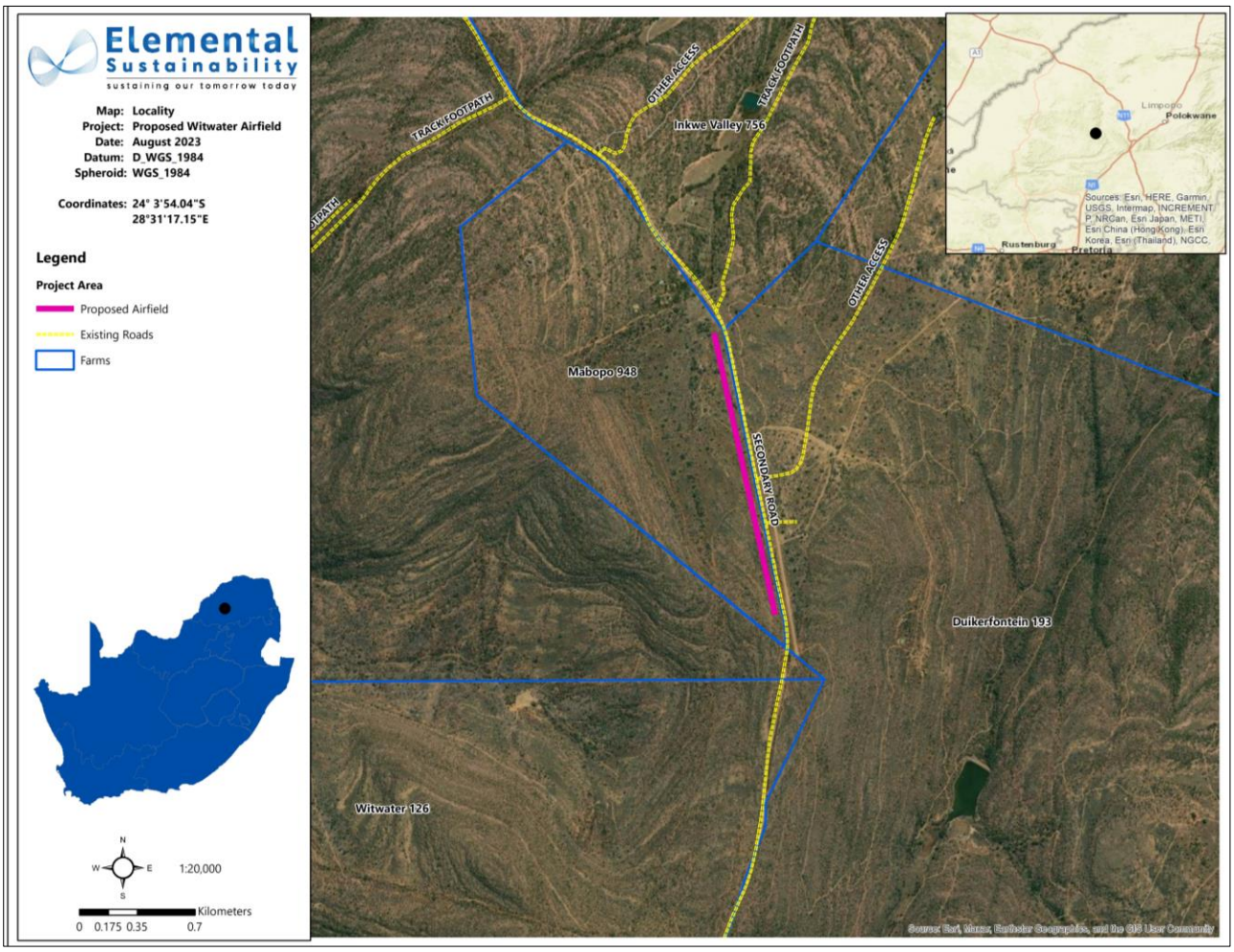

Figure 1: Locality Map

2.4 PROPOSED DEVELOPMENT ACTIVITIES

The proposed development will consist of a runway with a hanger. The main construction components associated with the proposed development of the runway includes the following:

- Site establishment that involves:
  - Demarcation of the site
  - Transportation of materials to site
- Earthworks activities involving
  - Clearing of trees and vegetation
  - Excavations for the runway and hanger foundations
  - Filling and compacting
- Concrete base and reinforcement
  - Preparation of, mixing, and placement of concrete;
  - Assembling of materials; and
  - Erection of hanger.

Impacts associated with the different phases of the activity proposal (airfield) addressed in the BA Report are included in Table 4 below.

Table 4: Summary of Anticipated Impacts

PHASE	IMPACT
Planning	Temporary disturbance of wildlife due to increased human presence.
Construction Phase	Dust pollution.
	Noise pollution.
	Erosion
	Surface and ground water pollution.
	Loss and fragmentation of the vulnerable vegetation community.
	Displacement of faunal community due to habitat loss and disturbance.
	Waste management.
	Visual impact.
	Traffic impact.
	Impact on sense of place.
	Employment opportunities.
Operational Phase	Fragmentation and disturbance of the faunal community.
	Encroachment and displacement of indigenous vegetation community.
	Invasion by alien (non-native) species.
	Displacement, direct mortalities and disturbance of faunal community.
	Noise pollution.
	Traffic impact.

PHASE	IMPACT
	Waste management.
	Surface and ground water pollution.
	Impact on sense of place.
	Water and soil pollution.
	Dust pollution.
	Noise pollution.
Rehabilitation and Closure	Spread and/or establishment of alien invasive plant species.
	Possible re-establishment of indigenous vegetation.

3 DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Table 5 below includes a summary of the qualification and experience of the Environmental Impact Assessment Practitioner (EAP). Refer to Appendix 1 and 2 for more the Curriculum Vittae.

Table 5: Details and Expertise of EAP

Environmental Consultants:	Elemental Sustainability (Pty) Ltd.
Postal address:	P.O. Box 39080 Moreletapark, Pretoria 0044
Telephone:	083 388 4633
Name of EAP	**Sonja van de Giessen**
Qualifications:	• University of North West, M.Sc. Environmental management – 2018 • University of South Africa, BSc Hons Environmental Science – 2010 • Tshwane Technical College, B. Tech Degree Nature Conservation – 1998 • Tshwane Technical College, Diploma Nature Conservation – 1995
Professional affiliation(s):	• Natural Professional Scientist (*Pr. Sci.Nat.* Number: 400084/18)

	• Environmental Assessment Practitioner South Africa (EAPASA Number: 2019/1496)
Expertise of the EAP:	• Environmental management, specifically the mining industry sector, focusing on Environmental Impact Assessments; • Environmental Management Programmes; • Water Use Licence Applications; • Integrated Water and Waste Management Plans; and • Environmental Auditing.
Experience	Over 10 years.

4 POLICY AND LEGISLATIVE CONTEXT

This section provides an overview of the governing legislation identified which may relate to the proposed project. The primary legal requirement for this project stems from the need for an EA to be granted by the competent authority, which is the GDARD, in accordance with the requirements of the NEMA. In addition, there are numerous other pieces of legislation governed by many Acts, Regulations, Standards, Guidelines and Treaties on an international, national, provincial and local level, which should be considered in order to assess their potential applicability for the proposed activity. The legislation that was considered for this project includes, but is not limited to, the following:

- The Constitution (Act No. 108 of 1996);
- The NEMA (Act No. 107 of 1998);
- NEMWA (Act No. 59 of 2008);
- The NEMAQA (Act No 39 of 2004);
- The NWA (Act No. 36 of 1998);
- The NHRA (Act No 25 of 1995);
- The National Environmental Management: Biodiversity Act (Act No. 10 of 2004);
- The National Forests Act (Act No. 84 of 1998); and
- The South African National Roads Agency Limited and National Roads Act (Act 7 of 1998).

4.1 APPLICABLE NATIONAL LEGISLATION

On the national level, the legislation discussed below has relevance to this project.

4.1.1 National Environmental Management Act (NEMA) (Act 107 of 1998)

The NEMA as amended, provides for co-operative governance by establishing decision-making principles on matters affecting the environment. In terms of the NEMA EIA Regulations (2014, as amended in 2021), the proponent is required to appoint an environmental assessment practitioner (EAP) to undertake an EIA as well as the public participation process. In South Africa, EIA's became a legal requirement in 1997 with the promulgation of regulations under the Environment Conservation Act (ECA). Subsequently, the NEMA was passed in 1998. Section 24(2) of NEMA empowers the Minister and any MEC, with the concurrence of the Minister, to identify activities which must be considered, investigated, assessed and reported on to the competent authority responsible for granting the relevant EA. On 21 April 2006 the then Minister of Environmental Affairs and Tourism (now DFFE) promulgated regulations in terms of Chapter 5 of the NEMA, and these EIA Regulations were amended on the 4th December 2014 and 11th June 2021.

The objective of the NEMA EIA Regulations is to establish the procedures that must be followed in the consideration, investigation, assessment, and reporting of the activities that have been identified. The purpose of these procedures is to provide the competent authority with adequate information to make decisions which ensure that activities which may impact negatively on the environment to an unacceptable degree are not authorized, and that activities which are authorized are undertaken in such a manner that the environmental impacts are managed to acceptable levels.

In accordance with the provisions of Sections 24(5) and Section 44 of the NEMA the Minister has published Regulations (GN R. 982) pertaining to the required process for conducting EIA's in order to apply for, and be considered for, the issuing of an EA. These Regulations provide a detailed description of the EIA or BA process to be followed when applying for EA for any listed activity. The Regulations differentiate between a simpler BA process (required for activities listed in GN R. 983 and 985) and a full EIA process (activities listed in GN R. 984 of the EIA Regulations, 2014, as amended in 2021). The activities triggered by this project fall under GN R. 983 and 985, and as such, a BA process was undertaken. Furthermore, Appendix 4 of the EIA Regulations (2014, as amended in 2021) details the requirements of an EMPR and these requirements have been adhered to for this EMPR as indicated in Table 1.

4.2 ENVIRONMENTAL MANAGEMENT PRINCIPLES

This section provides an overview of the governing legislation identified which may relate to the proposed project. The primary legal requirement for this project stems from the need for an EA to be granted by the competent authority, which is the LEDET, in accordance with the requirements of the NEMA. In addition, there are numerous other pieces of legislation governed by many Acts, Regulations, Standards, Guidelines and Treaties on an international, national, provincial and local level, which should be considered to assess their potential applicability for the proposed activity. The legislation that was considered for this project includes, but is defined in NEMA as "*the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term*." Other guidelines typically used for environmental management in terms of other legislation include: BPM which is the Best Practicable Means and BAT which is the Best Available Technology.

4.2.1 Holistic Principle

The Holistic principle, as defined by NEMA (Section 2(4)(b) requires that environmental management must be integrated, acknowledging that all elements of the environment are linked and inter-related and it must consider the effect of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option (defined below).

Holistic evaluation refers to the fact that a project is part of a larger picture. If there are indications that a project could have significant negative impacts, the project needs to be re-evaluated and, if necessary, replanned or relocated to prevent a negative impact or to achieve a positive impact.

4.2.2 Best Practible Environmental Option

When it is necessary to undertake any action with environmental impacts, the different options that could be considered for the purpose must be identified and defined. The Best Practicable Environmental Option (BPEO) is defined in NEMA as "*the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the*

short term." Other guidelines typically used for environmental management in terms of other legislation include: BPM which is the Best Practicable Means and BAT which is the Best Available Technology.

4.2.3 Sustainable Development

Sustainable development aims to ensure that the use of natural resources is such that our present needs are provided without compromising the ability of future generations to meet their own needs. The constitution of South Africa is built around the fact that everyone has the right to have the environment protected through reasonable legislative and other measures that secure ecologically sustainable development. The National Environmental Principles included in the NEMA require development to be socially, environmentally and economically sustainable.

4.2.4 Preventative Principles

Sustainable development is based on the principle of preventative action. This means that the destruction of ecosystems, pollution, degradation, and other negative effects on the environment must be prevented. If they cannot be prevented, minimised and corrected.

4.2.5 The Precautionary Principle

The precautionary principle requires that where there is uncertainty, based on available information and as a matter of precaution, that said impact will be harmful to the environment until such time that it can be proven otherwise. This requires that decisions by the private sector, governments, institutions and individuals need to allow for and recognise conditions of uncertainty, particularly with respect to the possible environmental consequences of those decisions. In South Africa, the then Department of Water Affairs and Forestry (DWAF) (now DWS) adopted a BPEO guideline in 1991 for water quality management and in 1994 in the Minimum Requirements document for waste management.

In terms of these Minimum Requirements for the Handling and Disposal of Hazardous Waste (1994), the precautionary principle is defined as, "*Where a risk is unknown; the assumption of the worst-case situation and the making of provision for such a situation."* Here the precautionary principle assumes that a waste or an identified contaminant of a waste is *"both highly hazardous and toxic until proven otherwise*."

The precautionary principle is also applicable in the context of Environmental Impact Assessments (EIA) in South Africa. The precautionary principle states that the information to be provided must be reliable and scientifically sound, and that the information must be sufficient to enable the decision-maker to make a reasonable assessment of the potential environmental impacts, the extent of those impacts and the mitigation of those impacts. If the information is not sufficient for that purpose, the CA should request the collection and submission of additional information.

4.2.6 Duty of Care and Cradle to Grave Principle

In terms of the NEMA Section 28, "*Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment*."

By way of example, the principle of 'duty of care' in terms of waste management, emphasises the responsibility to make sure that waste is correctly stored and correctly transported, as it passes through the chain of custody to final point of disposal. This means that waste must always be stored safely and securely. The company removing and disposing of waste also holds the responsibility to hold the relevant licences, and that waste is transported alongside the necessary paperwork.

'Cradle to Grave' refers to the responsibility a company takes for the entire life cycle of a product, service or program, from design to disposal or termination. In terms of the DWAF Minimum Requirements for the Handling and Disposal of Hazardous Waste (1994) "*any person who generates, transports, treats or disposes of waste must ensure that there is no unauthorised transfer or escape of waste from his control. Such a person must retain documentation describing both the waste and any related transactions. In this way, he retains responsibility for the waste generated or handled.*" This places responsibility for a waste on the Generator and is supported by the 'Cradle to Grave' principle, according to which a 'manifest' accompanies each load of Hazardous Waste until it is responsibly and legally disposed. This manifest is transferred from one transporter to the next along with the load, should more than one transporter be involved. Once the waste is properly disposed of at a suitable, permitted facility, a copy of the manifest must be returned to the point of origin. Duty of Care offers one strategy to implement sustainable development.

4.2.7 Polluter Pays Principle

The 'polluter pays principle' holds that the person or organisation causing pollution is liable for any costs involved in cleaning it up or rehabilitating its effects. It is noted that the polluter will not always necessarily be the generator, as it is possible for responsibility for the safe handling, treatment or disposal of waste to pass from one competent contracting party to another. The polluter may, therefore, not be the generator but could be a disposal site operator or a transporter. Through the 'duty of care' principle, however, the generator will always be one of the parties held accountable for the pollution caused by the waste. Accordingly, the generator must be able to prove that the transferral of management of the waste was a responsible action. The polluter pays principle acceding to NEMA dictates that "*the cost of remedying pollution, environmental degradation and consequent adverse effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment*."

4.2.8 Duty of Care Responsibilities

The principle of duty of care is especially important to understand when it comes to pollution that arises due to an activity. Notwithstanding any licences or permits that may exist, the proposed Witwater airstrip would still have a responsibility to take suitable measures should pollution arise as a result of the activities.

Training and awareness should be fostered in all staff working at the Witwater Airstrip to ensure that they can perform their duties. Failure to comply with the provisions in the EMPR and NEMA would be a contravention of the Act. The relevant sections of NEMA are provided below, to outline the duty of care and responsibility that the applicant and all employees have towards the environment. Section 28 of the NEMA makes provision for duty of care and remediation of environmental damage. The binding principals are described below:

1. Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.
2. Without limiting the generality of the duty in subsection (1), the persons on whom subsection (1) imposes an obligation to take reasonable measures, include an owner of land or premises,

a person in control of land or premises or a person who has a right to use the land or premises on which or in which-

a) any activity or process is or was performed or undertaken; or

b) any other situation exists, which causes, has caused or is likely to cause significant pollution or degradation of the environment.

3. The measures required in terms of subsection (1) may include measures to-

a) investigate, assess and evaluate the impact on the environment;

b) inform and educate employees about the environmental risks of their work and the manner in which their tasks must be performed in order to avoid causing significant pollution or degradation of the environment;

c) cease, modify or control any act, activity or process causing pollution or degradation;

d) contain or prevent the movement of pollutants or the cause of degradation;

e) eliminate any source of the pollution or degradation; or

f) remedy the effects of the pollution or degradation.

Any person convicted of an offence in terms of the NEMA may incur a fine not exceeding R1 to R10 million or to imprisonment for a period not exceeding 1 to 10 years or both such a fine and such imprisonment.

5 ROLES AND RESPONSIBILITIES

This section provides the roles and responsibiliites of the various parties that will be involved in implementing the EMPR during Pre-Construction, Construction, Rehabilitation and Operational Phase.

5.1 THE HOLDER (APPLICANT) OF ENVIRONMENTAL AUTHORISATION

The Holder (Applicant) NTT Motors 384 (Pty) Ltd. is the principal party of the airfield. The legal accountability for correct implementation of the relevant requirements of the EA and EMPR falls upon the Holder. Where activities are contracted out (e.g. to Contractors and Subcontractors), the liability associated with non-compliance still rests with the Holder (unless otherwise agreed upon between the authorities, the Holder and the contracting parties). It is, therefore, important that these requirements are enforced on any contractor, agent or service provider acting on behalf of the applicant in relation to this project. The relevant licenses, authorizations, permits, EMPR and any other relevant environmental norms and standards are included in the contractual conditions of any such parties acting on the Holder's behalf.

The Holder (and not the Contractor) is responsible for liaising directly with the relevant authorities with respect to the preparation and implementation of the EMPR. All project activities must adhere to and comply with all South African legislation and regulations and this requirement must also be included in the Contractors'/Applicant conditions. Should there be changes in legislation and/or regulations then action will be taken to incorporate such changes and to pass these requirements on to the Contractors.

The Holder's role includes:

- Provide all necessary supervision during the execution of the project. Representation from the Holder should be available on site all the time;
- Provide the necessary support in terms of resources (people, financial and technical) to ensure successful implementation of the EMPR, EA and all other relevant environmental commitments;
- Appoint a suitably qualified, competent Environmental Officer (EO) that will be responsible for among others, ensuring daily compliance with the EMPR, and EA and other relevant environmental standards throughout all phases;
- Appoint a suitably qualified, competent and Independent Environmental Control Officer (ECO) to verify environmental performance through regular audits;
- Notify authorities (e.g. LEDET, DWS) of any significant changes in the airfield operations which would require amendments to existing licenses, authorisations, permits or other relevant approvals (such as this EMPR);
- Notify authorities of any reportable incidents in terms of National Legislation (e.g. Section 30 of NEMA, Section 20 of NWA);
- Review Independent Environmental Auditor reports and other environmental compliance reports and ensure corrective actions are assigned to relevant parties for rectification;
- Ensure the projects' overall compliance with National Law and any relevant environmental standards and regulations;
- To implement the projects as per the approved project plan; and
- To comply with special conditions as stipulated by surrounding landowners during the negotiation process.

5.2 THE PROJECT MANAGER / ENGINEER

The Project Manager /Engineer needs to:

- Ensure that the proposed design of the infrastructure takes into consideration the location and existing environmental conditions at the site to prevent significant negative impacts;
- Ensure that all aspects of environmental protection are adequately addressed during the design;
- Appoint contractors that are sufficently qualified to co-ordinate, supervise and facilitate different tasks;
- Ensure that any laws and standards relevant to the construction of the facility are adhered to;
- Ensure all aspects of the project are properly and competently directed, guided and executed;
- Ensure adherence to statutory safety, health and environment (SHE) standards and compliance to the EMPR throughout the construction phase;
- Take responsibility and accountability for the site during the construction phase; and
- Construction of the facility to contractual specifications.

5.3 THE ENVIRONMENTAL CONTROL OFFICER

The Environmental Control Officer (ECO) is appointed by the Holder and is responsible for independent compliance monitoring, and auditing function as well as the explanation/clarification of environmental issues contained in this EMPR to anyone working on the site. The ECO will have the responsibility to monitor that the mitigation/rehabilitation measures and recommendations referred to in the EA and associated documents are implemented and to ensure compliance with the provisions of this EMPR. The ECO must be a suitably qualified and/or experienced environmental scientist.

5.4 THE CONTRACTOR OR SUB-CONTRACTOR

The contractor or Sub-contractor should:

- Manage and operate their activities with due care and diligence;
- Comply with the requirements of the EMPR;
- Avoid and/or reduce any adverse impacts they may have on the environment by adhering to the proper design and construction of the proposed development;
- Report back to the Project Manager on issues / non-compliances;
- Control predicted impacts that may occur to meet acceptable standards, both as a legal and a moral responsibility to the environment within which they operate;
- Ensure their operation and environmental management of the site is carried out with transparency;
- Ensure that all elements of the project undertaken are properly and competently directed, guided and executed during construction;
- Ensure construction of the facility complies with contractual specifications;
- Ensure adherence to laws and standards relevant to the construction of the facility;
- Ensure adherence to statutory SHE standards during construction and compliance with the EMPR; and
- Any new or amendments to existing mitigation measures to fix areas of concern recommended by the ECO are to be executed as necessary by the contractor.

5.5 THE ENVIRONMENTAL OFFICER

The Holder shall appoint an environmental officer (EO) who is a suitably qualified individual (and preferably be a senior member of staff) that will be responsible to oversee day to day compliance with the EMPR and ensure its correct implementation throughout the construction and operation of the Witwater Airstrip. The EO will also

be responsible for correct implementation of other environmental commitments such as compliance with the EA, permits, licences and other relevant environmental procedures and documentation (e.g. method statements and monitoring programs). The EO must have appropriate environmental training and experience to ensure adequate implementation of the EA, EMPR and relevant environmental norms and standards. In this regard, it is recommended that the EO have a tertiary qualification in an Environmental Science or Environmental Management field and experience with environmental management in the construction industry. The EO is responsible for adequate environmental training of staff and employees throughout the operation of the facility.

The EO role and responsibilities will include:

- Conveying the contents of the EA, EMPR and any other relevant permits or approvals to the site employees (workers and staff). This should take the form of formal induction and awareness training to be done with all main and sub-contractors. Records of the training date, meeting attendees and discussion points shall be kept by the EO;
- Daily inspections of the work area(s) to ensure adequate on-site environmental performance;
- Complete Site Inspection forms/records on a regular basis (weekly) throughout the project;
- Compilation, and review and approval of contractor's, Environmental Method Statements;
- Auditing of the Contractors' environmental performance and documentation during the construction phase;
- Issuing of site instructions to the Contractor for corrective actions required;
- Ongoing environmental awareness training of the site personnel throughout the operational phase;
- Maintain a record of environmental incidents (spills, impacts, injuries, complaints, legal transgressions etc.) as well as corrective and preventive actions taken, for submission to the Holder and ECO;
- Maintain an external grievance register in which all complaints/grievances are recorded, as well as action taken, for submission to the Holder and ECO;
- Ensure required corrective actions are taken within a specified time frame in respect of non-conformances and environmental incidents;
- Attendance at Health, Safety and Environment (HSE) meetings, toolbox talks and awareness training programs;
- Ensure that waste management on site conforms to the necessary requirements specified in this EMPR;
- Ensuring that environmental signage and barriers are correctly placed and maintained; and
- To inform and educate all employees about the environmental risks associated with their activities and how to avoid and mitigate significant impacts to the environment.

6 ENVIRONMENTAL INCIDENTS

For the purposes of this project, an environmental incident can be divided into three levels, i.e. major, medium and minor. All Major and Medium environmental incidents shall be recorded in the incident register (either separate or consolidated with a Non-compliance Register). Minor incidents do not need to be reported but require immediate rectification on site. Definitions and examples of environmental incidents are provided in Table 6.

Table 6: Description of Incidents and Non-Compliances for the Purpose of the Project

Non- Compliance	**Any deviation from work standards, practices, procedures, regulations, management system performance etc. that could either directly or indirectly lead to injury or illness, property damage, damage to the workplace environment, or a combination of these.**
Major Environmental Incident	An incident or sequel of incidents, whether immediate or delayed, which results or has the potential to result in widespread, long-term, irreversible significant negative impact on the environment and/or has a high risk of legal liability. A major environmental incident usually results in a significant pollution and may entail risk of public danger. Major environmental incidents usually remain an irreversible impact even with the involvement of long-term external intervention (i.e. expertise, best available technology, remedial actions, excessive financial cost etc.). Major environmental incidents may be required to be reported to the authorities. The ECO shall make the final decision as to whether a particular incident should be classified as a Major incident. An example of a Major environmental incident would be a significant spillage (e.g. 500 litres) of fuel into a watercourse.
Medium Environmental Incident	An incident or sequel of incidents, whether immediate or delayed, that results or has the potential to result in widespread or localised, short term, reversible significant negative impact on the environment and/or has a risk of legal liability. A medium environmental incident may be reported to the authorities, can result in significant pollution or may entail risk of public danger. The impact of medium environmental incidents should be reversible within a short to medium term with or without intervention. The ECO shall make the final decision as to whether a particular incident should be classified as a Medium incident.
Non- Compliance	Any deviation from work standards, practices, procedures, regulations, management system performance etc. that could either directly or indirectly lead to injury or illness, property damage, damage to the workplace environment, or a combination of these.
Minor Environmental Incident	An incident or sequel of incidents, whether immediate or delayed, where the environmental impact is negligible immediately after occurrence and/or once-off intervention on the day of occurrence. An incident where there is unnecessary wastage of a natural resource is also classified as a minor environmental incident. An example would be leaking water pipes that result in the wastage of water. A minor environmental incident is not reportable to authorities. A further example of a minor incident is day to day spills of fuel or oil onto the ground where the spill is less than one or two litres. Minor incidents are easily rectified and shall be addressed immediately after being identified on site.

The following incident reporting procedures shall apply to this project:

- All environmental incidents shall be reported to Contractor's EO and Holders EO who shall ensure that the appropriate rectification is undertaken;
- All medium and major incidents shall be recorded by the EO all in the incident register who should advise on the appropriate measures and timeframes for corrective action;
- The party responsible for the incident shall complete an incident report for all medium and major incidents and the report shall be submitted to the Project Manager / Engineer and EO within 5 calendar days of the incident;
- All medium and minor incidents shall be investigated by the EO and required actions must be identified to prevent a recurrence of such incidents; and
- In the event of an emergency incident (unexpected sudden occurrence), leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed, the Applicant shall notify the relevant authorities in accordance with legal requirements (e.g. Section 30 of NEMA and Section 20 of the NWA). In the event of a dispute in terms of the classification of a such an incident, the Applicant shall engage the ECO to advise on the potential reporting requirements in terms of the above.

7 MANAGEMENT AND MITIGATION

Table 7 presents the general EMPR provisions for the proposed Witwater Airfield.

Table 7: Mitigation and management measures

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Site preparation	Topography	Modification of the landscape.	Ensure minimal disturbance to topography by keeping development to the site.	No construction vehicles unnecessarily Outside construction site. Topsoil stockpiled appropriately. Record or register of communication with residents/ landowners.	Continuous	Applicant / Contractor / ECO
Site preparation (foundations for all proposed activities)	Geology and Soils	Soil erosion and soil compaction.	Reduce the amount of exposed soil by mean of selective soil stripping. Implementation of correct stormwater channels. Monitor drainage channels to ensure erosion does not occur, Clearing of minimal vegetation.			
Site preparation	Geology and Soils	Loss of topsoil.	Keep construction to development site. Minimal vegetation should be cleared.			
Site preparation and construction activities	Geology and Soils	Contamination of soils through disposal of waste; and spillage of hydrocarbon-based fuels and oils or lubricants spilled from vehicles and paints.	Maintain and machinery must be maintained. Should maintenance take place on site, these should be taken to a designated area that is paved.	Service records. Spill containment kits. Spill/incident registers.	Continuous	Applicant / Contractor / ECO
Site preparation	Archaeology and Heritage	No heritage found on site	Implementation of chance find protocol.	Visual observation.	Construction.	Applicant / Contractor
Site preparation (excavations for landing strip and hanger.)	Palaeontology	It is unlikely that any fossils would be preserved in the sands and alluvium of the area.	Implementation of chance find protocol.	Visual observation.	Construction.	

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Site preparation	Terrestrial Biodiversity	Development related activities will lead to damage or degradation of moderately sensitive habitats (VU1) and overall loss of biodiversity and ecosystem function within the clearance area. As a result of the construction activities additional fragmentation, degradation or compression may occur. The vegetation on the footprint will be stripped and all vegetation and habitat within this stretch proposed for development will be lost. A linear section perpendicular to the existing road will be utilised for the airfield development, which means the area of influence is expected to be limited in size.	Remain clear of other areas where activities are not necessary. Adhere to all management and mitigation measures as prescribed within other specialist reports and Environmental Management Programme (EMPR). To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees. Vegetation clearance should be specific and controlled to include only the development footprint and no other natural areas should be impacted. The footprint should be fenced immediately prior to construction onset and no animals should be contained or allowed within this footprint to avoid injuries and impact	Visual Observation	Continuous.	Applicant/ Contractor /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Activities during construction phase and infrastructure during operational phase	Terrestrial Biodiversity	Development related activities may lead to the loss of floral sensitive species. Animal SCC identified to occur are kept as game by the applicant on the property and these should be restricted access to the construction site and during all phases of the development.	All footprint areas should remain as small as possible. This can be achieved by fencing footprint areas to contain all activities within designated areas. If any SCC are encountered within the subject property in the future, the following should be ensured: o If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas or within designated open space on the subject property. o All rescue and relocation plans should be overseen by a suitably qualified specialist. o Obtain relevant permits/consent, if applicable, for each protected or endangered floral species identified within the proposed development area that will be destroyed. All vehicles and equipment must be regularly maintained to avoid any oil/fuel leaks or spills. If any spill or leak does occur, it must be ensured that it is properly cleaned up as soon as possible to avoid significant effects.	Visual Observation. Animal Protection Act 1962 (Act 71 of 1962). National List of Threatened Terrestrial Ecosystems (2011). IUCN Red List of Threatened Species South African Red List of Species. NEMBA	Continuous	Applicant/ Contractor /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Activities during construction phase and infrastructure during operational phase	Terrestrial Biodiversity	Fragmentation of habitat areas due to possible fencing or the placement of boundary structures could lead to increased edge effects. Remaining natural habitat that is not to be cleared, needs to be protected unless authorised otherwise. Edge effects could occur around the linear footprint if not managed well.	Demarcate specific areas to be developed and remain clear of other areas where activities are not necessary. Adhere to all management and mitigation measures as prescribed within other specialist reports and Environmental Management Programme (EMPR). Keep the footprints as small as possible and clear only the designated approved areas. During the construction phase control of access should be implemented for all remaining natural areas to prevent unnecessary destruction of habitats or disturbance of species. It is also important that no additional fragmentation occurs and that all roads are clearly demarcated and kept to. No vehicles or personnel should be permitted outside of these demarcated roads.			
Construction activities	Terrestrial Biodiversity	Sensitive aquatic habitat needs to be protected. The dam to the north, the wetland delineated and the drainage line (ephemeral), could be impacted if impacts occur outside of the footprint. .	Demarcate specific areas to be developed and remain clear of other areas where activities are not necessary. Adhere to all management and mitigation measures as prescribed within other specialist reports and Environmental Management Programme (EMPR). Keep the footprints as small as possible and clear only the designated approved areas. During the construction phase control of access should be implemented for all remaining natural areas to prevent unnecessary destruction of habitats or disturbance of species. It is also important that no additional fragmentation occurs and that all roads are clearly demarcated and kept to. No vehicles or personnel should be permitted outside of these demarcated roads.	Visual Observation. Animal Protection Act 1962 (Act 71 of 1962). National List of Threatened Terrestrial Ecosystems (2011). IUCN Red List of Threatened Species South African Red List of Species. NEMBA	Continuous	Applicant/ Contractor /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Construction and operational activities (earthworks and establishment of infrastructure) an operation of airstrip	Terrestrial Biodiversity	Impacts may lead to the increase of invasive species from the surrounding areas and may change the vegetation structure and composition of adjacent areas over time. It may also result in the spread of the invaders to other surrounding areas. The condition of the area is largely natural and minimal invasives were sighted to occur on the footprint, but this could change due to clearance activities within the footprint, leading to invasive species getting a foothold within this section and these plants will spread into the surrounding natural areas if not carefully managed and eradicated.	Implement an Alien and Invasive Management Programme, which will aim to remove and manage any invasive as listed within the Alien and Invasive Species list as published in 2020. Ensure awareness amongst all staff, contractors and visitors to site to not needlessly damage flora. To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.	Visual Observation. Alien Invasive Management Plan.	Continuous	Applicant/ Contractor /ECO
Use of airstrip by planes /helicopter	Terrestrial Biodiversity	Collisions to avifaunal and potentially bat species (flying species) during the operational stage of the airfield could occur. Animal SCC identified to occur are kept as game by the applicant on the property and these should be restricted access to the construction site and during all phases of the development.	All footprint areas should remain as small as possible. This can be achieved by fencing footprint areas to contain all activities within designated areas. If large birds or flocks of birds are reported or observed near the runway, the flight crew should consider: ○ Delaying the take-off or landing when fuel permits. Advise the tower and wait for airfield action/instruction before continuing. Unfortunately, bird strikes are difficult to manage and prevent, but effective wildlife management involves controlling attractants, often species-specific, including food, foraging, roosting, and nesting opportunities. It should be ensured that	Visual observations.	Continuous	Applicant / ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			feeding opportunities are not created near the airfield and the airfield should regularly be maintained and checked for nests and inhabitants that could be killed in collision. All collisions should be reported to the applicant and strategies or reporting structures should be in place to enable this. If any SCC is killed during a collision, an avifaunal specialist should be consulted to assess the situation, provide suggestions to prevent possible repeat scenarios.			
Closure (Closure will need to be re-evaluated should the airstrip be decommissioned)	Terrestrial Biodiversity	Impacts during and after closure and demolition. The results may be positive as a result of rehabilitation, if invaders have been kept under control during the operational phase of the project, the site may be rehabilitated back to a natural landscape. Areas should be rehabilitated back to its original land capability to ensure the natural habitat of the sensitive species are recovered to its original characteristics.	A management plan for control of invasive/exotic plant species needs to be implemented for all footprint and surrounding areas. Removal of alien and invasive species must continue for a two-year maintenance period after/during the decommissioning phase, on a biannual basis. Rehabilitation plan should be implemented. This includes the process of reprofiling, topsoil distribution and replanting the vegetation. Rehabilitation plans should be compiled with the use of a specialist and the correct seeding techniques and mixtures should be applied. Close monitoring of plant communities during and after the decommissioning phase to ensure that ecology is restored and self-sustaining. The monitoring of the flora should be conducted annually by the environmental practitioner, until a suitably qualified specialist deems the monitoring to no longer be necessary.	Visual Observation Alien Invasive Management Plan.	Continuous	Applicant/ Contractor /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Construction and operation including compaction of soil, removal of vegetation	Watercourses (wetlands and drainage line)	Changing the quantity and fluctuation properties of the at risk watercourses by for example restricting water flow or increasing flood flows. Permanent changes to water flows and loss of important habitat may occur.	Construction possibly affecting watercourses should be restricted to the drier winter months, where practically possible. All construction and operation activities should occur outside of the construction and operation buffers provided in this report, where practically possible. Demarcate the watercourses and associated buffer zones to limit disturbance, clearly mark these areas as no-go areas. All bare areas due to construction and operation activities must be rehabilitated by adding topsoil where required and revegetated with indigenous vegetation. Effective stormwater management should be put into place and be a priority during all phases of the project. This should be monitored as part of the EMPR. The at risk watercourses should be monitored for any degradation and changes to the functionality of the system. Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities. Monitor the occurrence of erosion during the rainy season and take immediate corrective action where needed. As far as possible the existing road network should be utilised, minimising the need to develop new access routes resulting in an increased impact on the local environment. All temporary access and service roads must contain mitre drains every 20 m or less depending on the topography to control the stormwater wash down the roads. All stormwater infrastructure must contain flow dissipation structures/measures, as the reduced groundcover within the study area is prone to high velocity	Visual Observation. General Authorisation. Approved stormwater management plan.	Continuous	Applicant/ Engineer /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			surface wash that may encourage preferential flow-paths to form, and thus rill/gully erosion occurring. No stormwater infrastructure must be directed into a watercourses, but instead towards a section of vegetated land, or flow dissipators, adjacent to the watercourses. Watercourse road crossings should be minimised as far as practically possible and crossings of important systems should be avoided to avoid or minimize direct habitat impacts, hydrological impacts and ecological fragmentation impacts. Erosion protection and energy dissipation measures should be established at all road crossing outlets e.g. stilling basins and reno-mattresses.			
Use of hazardous substances and incorrect use of vehicles	Watercourses (wetlands and drainage line)	Changes in water quality due to pollution can result in the loss of sensitive biota in the watercourses and a reduction in functionality.	Implementation of appropriate stormwater management around the proposed development areas and associated infrastructure to prevent contaminated runoff into the watercourses. Maintenance of construction and operation vehicles / equipment should not take place within the watercourses and associated buffers. All vehicles must be regularly inspected for leaks. Re-fuelling must take place on a sealed surface area to prevent hydrocarbon pollution. All spills should be cleaned up immediately and disposed of. Littering must be prevented by effective site management and the provision of bins. Control of waste discharges and do not allow dirty water from operational activities to enter the watercourses. Fuel, chemicals and other hazardous substances should preferably be stored offsite, or in suitable secure weather-proof containers with impermeable and bunded floors onsite to limit pilferage, spillage into the environment, flooding	Prevent contamination on water resources that could potentially impact the aquatic environment. Meet rehabilitation objectives and standards. Spill procedure Hazardous Substances Act, 1973 (Act 15 of 1973) [as amended]	Continuous	Applican t/ Engineer /ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			or storm damage. No contaminated runoff or grey water is allowed to be discharged from the construction site camp. The proper storage and handling of hazardous substances (e.g. fuel, oil, cement, etc.) needs to be administered. Mixing and/or decanting of all chemicals and hazardous substances must take place on a tray, shutter boards or on an impermeable surface and must be protected from the ingress and egress of stormwater. Drip trays should be utilised at all dispensing areas. No vehicles transporting concrete, asphalt or any other bituminous product may be washed on site. Vehicle maintenance should not take place on site unless a specific bunded area is constructed for such a purpose. Hazardous storage and refuelling areas must be bunded prior to their use on site during the construction period following the appropriate SANS codes. The bund wall should be high enough to contain at least 110% of any stored volume. The surface of the bunded surface should be graded to the centre so that spillage may be collected and satisfactorily disposed of. All necessary equipment for dealing with spills of fuels/chemicals must be available at the site. Spills must be cleaned up immediately and contaminated soil/material disposed of appropriately at a registered site. Contaminated water containing fuel, oil or other hazardous substances must never be released into the environment. It must be disposed of at a registered hazardous landfill site. Spills must be cleaned up immediately and contaminated soil/material disposed of appropriately at a registered site.			

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			The digging of pit latrines is not allowed under any circumstances. None of the open areas or the surrounding environment may be used as ablution facilities. No open fires are permitted on site.			
Indirect activities	Watercourses (wetlands and drainage line)	Loss and disturbance of watercourse habitats and watercourse fauna fatalities. Owing to the nature of the impact of the proposed development where both the soil profile and the underlying stratigraphy are for all intents and purposes permanently altered, impacts on the watercourses and their associated function are loss.	Demarcate the watercourses and associated buffer zones to limit disturbance, clearly mark these areas as no-go areas. Locate site camps, laydown areas, stockpile areas, construction material, equipment storage areas, vehicle parking areas, bunded vehicle servicing areas and re-fuelling areas in designated areas of already hardened surface or disturbed areas on site. These areas should preferably be located on level ground in a previously disturbed area of vegetation approved by the Environmental Control Officer (ECO). Cut and fill must be avoided where possible during the set-up of the construction site camp. No temporary infrastructure must be situated within delineated watercourses and their associated no-go buffer zones. No service roads or other unauthorized activities to take place within the delineated watercourses and associated buffer zones. Monitor the occurrence of erosion during the rainy season and take immediate corrective action where needed. The handling and/or killing of any animal species present is strictly prohibited and all staff/personnel must be notified of such incidents. Watercourse fauna (e.g. snakes, frogs, small mammals) that are encountered during the construction phase must be relocated to other parts of the watercourse under the guidance of the ECO and relevant handling specialist.	Visual Observations. Employer workshop training.	Continuous	Applicant/ Contractor / ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			Poaching/snaring is strictly prohibited.			
Construction and operation of airstrip The moving of soil and vegetation resulting in opportunistic invasions of alien vegetation after disturbance and the introduction of seeds in building materials and on vehicles. Invasions of alien plants can impact on hydrology, by reducing the quantity of water entering the watercourses, and outcompete natural vegetation, decreasing the natural biodiversity. Once in a system, alien invasive plants can spread through the catchment. If allowed to seed before control measures are implemented alien plants can easily colonise and impact on downstream users.	Watercourses (wetlands and drainage line)	Introduction and spread of alien species	Relocate conservation-worthy species under the supervision of a botanist or horticultural specialist and ensure the relevant permits to conduct such an activity are in place. Proliferation of alien and invasive species is expected within any disturbed areas particularly as there are extensive alien and invasive species present within the study site. These species should be eradicated and controlled to prevent further spread beyond. Alien and invasive vegetation control should take place throughout all phases to prevent loss of floral habitat. Footprint areas should be kept as small as possible when removing alien plant species. All bare surfaces across the construction site must be checked for AIPS every two (2) weeks and AIPS removed by hand pulling/uprooting and adequately disposed. Herbicides should be utilised where hand pulling/uprooting is not possible. Where possible, herbicides should not be utilised in watercourses. However, only those herbicides which have been certified safe for use in watercourses by independent testing authority are to be used. The ECO must be consulted in this regard. The herbicide contractor must be certified to apply/utilise the herbicide in question. A suitably qualified ECO/botanist/horticulturist must supervise the handling, maintenance and planting of the plant/trees if any site requires rehabilitation after construction or during operational phase. No AIPS may be utilised during the rehabilitation process. Rapidly germinating native indigenous species (e.g. fast growing, deep rooting, rhizomatous,	Continuous	Alien Vegetation Management Plan. Visual observations. General Authorisation	Applicant / Contractor/ ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			stoloniferous) known to bind soils in terrestrial, riparian and/or wetland areas must be utilised where there is a strong motivation for stabilisation over reinstating similar plant communities to that being disturbed. This should be informed by a suitably qualified specialist. Exposure of plant root systems to drying winds, high temperatures or water logging must be avoided. Where possible, revegetation must take place at the start of the spring rains to maximise water availability and minimise the need for irrigation. This will ensure optimal conditions for germination and rapid vegetation establishment. If this is not possible, watering of planted areas may be necessary during dry periods (external sources of water must be utilised e.g. Joe-Joe tanks). Water utilised for irrigation must be free of any chlorine or contaminants that may negatively affect the plant species. The control of AIPS must be guided by a AIPS control plan to ensure compliance with the NEM:BA.			
Construction activities consisting of earthworks and soil disturbances, may result in the loss of topsoil, sedimentation and increase in turbidity of the at risk watercourses.	Watercourses (wetlands and drainage line)	Changes in sediment entering and exiting the systems may result in smothering of vegetation and habitats and lead to the loss of niche habitats. Furthermore, increased turbidity affects the oxygen concentration and temperature of the water. Sedimentation and erosion will lead to the degradation of the watercourses	Construction in close proximity to watercourses must be restricted to the drier winter months where reasonably possible. Remove only the vegetation where essential and do not allow any disturbance to the adjoining natural vegetation cover. Stockpiling of soils and materials should take place outside of preferential flow paths, delineated watercourses and associated calculated buffer zones. All bare areas due to construction and operation activities must be rehabilitated by adding topsoil where required and revegetated with indigenous native vegetation.	Visual Observation. General Authorisation.	Continuous	Contractor / ECO

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
			Ensure that erosion management and sediment controls are strictly implemented from the beginning of site clearing activities. Monitor the occurrence of erosion during the rainy season and take immediate corrective action where needed. Erosion control measures including silt fences, low vegetated soil berms and/or shutter boards should be put in place around the temporary site camp and laydown areas to limit sediment ladened runoff and contaminants traveling into the surrounding environment. Sediment barriers (e.g.: silt fences/sandbags/hay bales) must be installed immediately downstream of active work areas (including soil stockpiles) as necessary to trap any excessive sediments generated during construction. If revegetation of exposed surfaces cannot be established immediately due to phasing issues, temporary erosion and sediment control measures must be maintained until such a time that revegetation can commence. All temporary erosion and sediment control measures must be monitored for the duration of the construction phase and repaired immediately when damaged. All temporary erosion and sediment control structures must only be removed once vegetation cover has successfully recolonised the affected areas. After every rainfall event, the contractor must check the site for erosion damage and rehabilitate this damage immediately. Erosion rills and gullies must be filled-in with appropriate material and silt fences or fascine work must be established along the gulley for additional protection until vegetation has recolonised the rehabilitated area.			

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Removal of vegetation for site clearing / preparation for all proposed infrastructure	Visual	Negative impacts on aesthetics	Limit the amount of vegetation to be cleared to the site where construction will take placed. Ensure construction camps is kept neat and during operation the airstrip and hanger area should be kept neat and maintained.	Visual observation. No litter on site. Complaints register with no complaints about visual disturbance.	Continuous	Applicant /ECO / Contractor
Removal of vegetation for site clearing / preparation for all proposed infrastructure	Visual	Negative impact on visibility from sensitive receptors/Viewpoints	Limit the amount of vegetation to be cleared to the site where construction will take placed. Ensure construction camps is kept neat and during operation the airstrip and hanger area should be kept neat and maintained.			
Movement of construction vehicles and heavy machinery for site clearance	Visual	Change of visual character from a natural landscape to a built landscape	Keep construction area to development area. Ensure neatness at site at all times.			
Site preparation and construction activities	Noise	Residents in the vicinity of the proposed development site will be subjected to increased noise nuisance (noise and vibration caused by construction machinery and equipment)d	Construction activities should be restricted to 07h00 to 17h00 during weekdays and 08h00 to 13h00 during weekends. Equipment should be well maintained and serviced.	Complaints register with number complaints regarding noise.	Continuous	Applicant /ECO / Contractor
Use of airstrip by planes /helicopter	Noise	Residents in the vicinity of the proposed development site will be subjected to increased noise nuisance caused by aeroplanes and helicopters landing or taking off.	Landing and taking off should be restricted to 07h00 to 17h00 during weekdays and 08h00 to 13h00 during weekends.			
Movement of construction vehicles and heavy machinery for site clearance	Air Pollution	The proposed construction phase activities will affect air quality as a result of emissions caused by exhaust fumes and dust generation.	The speed of vehicles within the site should be controlled to between 30 to 45 km/h. Areas generating dust should be sprinkled with water to reduce dust blowing over the area. The clearing of vegetation should be limited to the development area and should be undertaken prior to commencement of the construction activities.	Record or register of communication with residents/ landowners.	Continuous	Applicant /ECO / Contractor

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
Use of airstrip by planes /helicopter	Air Pollution	The use of the airstrip will affect air quality as a result of emissions caused by fuels.	Ensure planes/ helicopters are well maintained.			Applicant
Construction of airstrip and related infrastructure	Waste	Waste generation and disposal	Develop and implement a waste management plan for the construction site. All domestic waste must be disposed of in a proper manner off site. No solid waste should be dumped on site.	Minimum records on the complaints register. Visual observation. Safe waste disposal certificates. Adequate onsite waste management.	Continuous	Applicant /Contractor
Construction of airstrip and related infrastructure	Socio-Economic	New recruitment might take place (Construction workers) and all new labour will preferably be local.	Offer employment to locals especially where non-skilled labour is required. Comply with the applicable Labour legislation in terms of minimum wages.			
Construction of airstrip and related infrastructure	Socio-Economic	During construction heavy machinery may be employed which can result in accidents.	Safety equipment must be provided to all employees to prevent personal injury during construction. Staff need to be appropriately trained in assigned activities. Implement safety procedure on site.			
Construction of the residential units and associated infrastructure	Traffic	Increased traffic volumes from construction vehicles entering and exiting the site increasing risk for accidents, nuisance and noise	Limit the number of construction vehicles through proper planning for materials to be delivered. Implement speed limits on site. Ensure signage is erected for construction phase.	Road surface in good condition. Road Safety Rules and Regulations Delivery records. Complaints and incident records indicating no noise complaints or traffic related incidents.	Continuous	Applicant /Contractor
No-Go Option	Socio-economic	Reduced benefits on the economic environment, by job provision and obtaining supplies for and from local residents and businesses.	No mitigation required.	NA	-	-

ACTIVITY	ASPECTS AFFECTED	POTENTIAL IMPACT	Mitigation Measures	Target Indicators and Compliance with Standards	Time Period for Implementation	Responsible Party
No-Go Option	Socio-economic	No negative impacts imposed by the development on I&APs or surrounding land users	No mitigation required.	NA	-	-
No-Go Option	Surrounding natural environment and water bodies	No negative impacts imposed by the airstrip on the environment	No mitigation required.	NA	-	-

8 ENVIRONMENTAL MONITORING AND AUDITING

The Department of Environment, Forestry and Fisherise (DFFE) defines environmental auditing as "*a process whereby an organisation's environmental performance is tested against its environmental policies and objectives.*" Monitoring and auditing is an essential environmental management tool which is used to assess, evaluate and manage environmental and sustainability issues:

In order to ensure that the objectives of sustainable development and integrated environmental management are met and in order to obtain data which can inform continuous improvement of environmental practices at the site (adaptive management), monitoring and reporting will be an essential component of the operations. This section provides a summary of the critical monitoring aspects per specific environmental field.

This section provides a more detailed description of the intent, objectives and actions applicable to key environmental aspects associated with the airstrip development. The appointed Independent ECO, EO and the Applicant are responsible for ensuring compliance with the EMPR. Due to the nature of this development, it is assumed for the airstrip will not be decommissioned.

The following, monitoring and auditing, is specifically required:

- Daily Environmental Checklists and Diary (Construction Phases: These checklists should be specific to the activity being undertaken and should aim to provide a daily check and record of site environmental compliance;
- Monthly Compliance Reports (All Phases excluding post closure): These reports must be compiled by the Applicant's EO and must aim to monitor and report on compliance with the requirements of the EA and EMPR as well as general environmental performance. This report must include the results of all environmental monitoring, including but not limited to:
    - Records of waste volumes and associated disposal records; and
    - Monitoring and detection results of all leakage or spillage of hazardous substances (including transport, handling, installation and storage).
- Monthly ECO Audits (Construction Phase): Monthly inspections and audits to be undertaken by an Independent ECO. These audits will focus on monitoring EMPR compliance on active construction and decommissioning sites/areas;
- Annual ECO Audits (All Phases): This audit will be undertaken by the Independent ECO and will aim to meet the requirements of Regulation 34 as well as Appendix 7 of GN R. 982.

All monitoring and auditing must be accompanied by applicable records and evidence (e.g. delivery slips or certificates, photographic records, etc.). All reports must be retained and made available for inspection by the ECO, the Applicant and/or the relevant Competent Authorities. Copies of all documentation, permits, licences, and authorisations (including a copy of the EA as well as relevant amendments to the EMPR and EA, waste disposal certificates, disposal licenses, water use licences, etc.) must be obtained and kept in a site environmental file.

An environmental compliance register must be prepared and maintained throughout construction, operation and decommissioning in order to monitor environmental concerns, incidents, and non-compliances. This register should be utilised to measure overall environmental performance.

The Applicant must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.

8.1 GENERAL MONITORING AND RESPONSIBILITIES

The monitoring frequency and responsibilities are indicated in the Table 8 below.

Table 8: Responsibilities and Tasks

Responsible Person	Frequency	Tasks
Applicant	Continuously throughout project construction and operation phases.	The applicant must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.
ECO	Periodically throughout project construction phase. Frequency is determined by the monitoring plan (refer to the below sections)	The appointed ECO is responsible for monitoring compliance with the EMPR. The applicant must use the ECO audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement. The following monitoring and auditing is specifically required: • Compliance Audits: These audits must be undertaken by the ECO and must aim to monitor and report on compliance with the requirements of the EA and EMPR.
EO	Frequency is determined by the monitoring plan (refer to the below sections)	Daily Environmental Checklists: These checklists/diaries should be prepared by the designated EO specific to the applicable activity being undertaken and should aim to provide a daily check and record of site environmental compliance.
All	Frequency is determined by the monitoring plan.	All monitoring and auditing must be accompanied by applicable records and evidence (e.g. delivery slips, photographic records, etc.). All reports must be retained and made available for inspection by the ECO, the Applicant and /or the Relevant Competent Authorities.

Responsible Person	Frequency	Tasks
		An environmental conformance register must be prepared and maintained throughout construction and operation phases in order to monitor environmental concerns, incidents, and non-conformances. This register should be utilised to measure overall environmental performance.

Any Non-compliances (NC) shall be recorded in a register with details of date, location, NC or Incident EMPR aspect, corrective action taken, adequacy of corrective action, date rectified, photographic record, etc.

8.1.1 Wetland Monitoring Plan

Compliance against the EMPR must be monitored during the construction phase monthly by an ECO. The period and frequency of monitoring required post-construction must be determined by a suitably qualified specialist and approved by the ECO.

The mitigation / rehabilitation recommendations stated above must be incorporated into the project specific EMPR and compliance with the requirements/recommendations must be audited by a suitability qualified independent ECO. The key to a successful EMPR is appropriate monitoring and review to ensure effective functioning of the EMPR and to identify and implement corrective measures in a timely manner. Monitoring for non-compliance must be undertaken on a daily basis during the construction phase by the contractors under the guidance of the Project Manager / ECO / Engineer. An appropriately timed audit report should be compiled by the independent ECO. Paramount to the reporting of non-conformance and incidents is that appropriate corrective and preventative action plans are developed and adhered to. Photographic records of all incidents and non-conformances must be retained. This is to ensure that the key impacts on the receiving aquatic and terrestrial habitats are adequately managed and mitigated against and that the rehabilitation of any disturbed areas within any system is successful. Table 9 below is a monitoring guideline for the different perceived environmental impacts for the proposed development areas.

Table 9: Wetland Monitoring Plan

Aspect	Site	Methodology	Frequency	Compliance Limits/Comparison
Aquatic habitat and biota	**Watercourses onsite:** DL01, Seep01	• Fixed-point photography (FPP).	• Monthly during construction and operation phases.	• Visual baseline (i.e. FPP of watercourses).

Aspect	Site	Methodology	Frequency	Compliance Limits/Comparison
			• Biannually for three (3) years in the rehabilitation phase.	
Vegetation	AIPS control sites	• Fixed-point photography (FPP).	• Monthly FFP during construction and operation phases.	• Visual baseline (i.e. FPP and aerial images prior to implementation of AIPS control).
	Rehabilitation sites	• FPP.	• Biannually for three (3) years in the rehabilitation phase.	• Visual baseline (i.e. FPP and aerial images prior to implementation).
Geomorphology	Erosion control sites	• FPP.	• Monthly during construction and operation phases. • Biannually for three (3) years in the rehabilitation phase.	• Visual baseline (i.e. FPP and aerial images prior to implementation).
	Engineering structures- earthen berm, stormwater infrastructure and other as required	• As determined by the design engineer. • FPP.	• As determined by the design engineer	• Visual baseline (i.e. FPP and aerial images prior to implementation).

8.1.2 Monitoring Programme for Palaeontology

The Monitoring Programme for Palaeontology should commence once the excavations for foundations begin if fossils are observed.

- When excavations begin the rocks and discard material must be given a cursory inspection by the environmental officer or designated person. Any fossiliferous material (plants, insects, bone or coal) should be put aside in a suitably protected place. This way the project activities will not be interrupted.
- Photographs of similar fossils must be provided to the developer to assist in recognizing the fossil plants, vertebrates, invertebrates or trace fossils in the shales and mudstones. This information will be built into the EMPR's training and awareness plan and procedures.
- Photographs of the putative fossils can be sent to the palaeontologist for a preliminary assessment.

- If there is any possible fossil material found by the developer/environmental officer then the qualified palaeontologist sub-contracted for this project, should visit the site to inspect the selected material and check the dumps where feasible.
- Fossil plants or vertebrates that are of good quality or scientific interest by the palaeontologist must be removed, catalogued, and housed in a suitable institution where they can be made available for further study. Before the fossils are removed from the site an AMAFA or SAHRA permit must be obtained.
- Annual reports must be submitted to AMAFA or SAHRA as required by the relevant permits.
- If no good fossil material is recovered, then no site inspections by the palaeontologist will be necessary. A final report by the palaeontologist must be sent to AMAFA and SAHRA once the project has been completed and only if there are fossils.
- If no fossils are found and the excavations have finished then no further monitoring is required.

8.1.4 Terrestrial Biodiversity Monitoring Programme

Monitoring should start as soon as the construction phase of the development commences. The monitoring should include the following:

- Annual Alien Invasive Programme (AIP) monitoring should be undertaken from the onset of the construction phase and include removal as per the AIP;
- Implement an Observe and Report approach which will enable employees/residents to report any disturbance of fauna or degradation that they encounter during all phases of the development; and
- Monitoring of plant communities during and after the decommissioning phase (if relevant for the Airfield development) or any areas where rehabilitation was required to ensure that ecology is restored and self-sustaining.

8.1.5 Heritage Monitoring Programme

No heritage features were identified by the specialist. However there is a chance of discovering important cultural remains. It is advised that if such remains are found, the related work be put on hold and that an experienced archaeologist be contacted. The Heritage monitoring plan is presented in the table below.

Table 10: Monitoring plan for Heritage

Site	Impact	Application Phase	Action	Frequency	Responsible Peron
All surface	Potential damage to subsurface culturally significant material	Construction / Development	Chance finds procedure	Duration of construction / development	ECO

8.2 AUDITING

The key to a successful EMPR is appropriate monitoring and review to ensure effective functioning of the EMPR and to identify and ensure the implementation corrective measures in a timely manner. In the event where

discrepancies are identified, the problem must be investigated and attended to. All the results obtained during environmental monitoring must be documented for audit purposes.

An audit of the environmental monitoring and management actions undertaken is essential to ensure that it is effective in operation, is meeting specified goals, and performs in accordance with relevant regulations and standards. Audits must be conducted during the construction phase of the development to ensure adherence to the management measures contained in the EMPR. The following construction audit schedule will be undertaken:

- One audit at commencement of construction / site establishment activities with an audit report submitted to LEDET.
- Monthly audits for the duration of the construction phase with monthly audit reports submitted to LEDET.
- One audit with an audit report to be undertaken should a significant event (e.g. major storm event) occur.
- One post-construction audit with an audit report submitted to LEDET.

The environmental audit reports must:

- Be compiled by an independent, qualified environmental auditor.
- Contain a site inspection report.
- Indicate compliance with the Environmental Authorisation and EMPR.
- Comply with legal requirements for the content of environmental audit reports as per Section 34(2) of the 2014 EIA Regulations, as amended.

An independent Environmental Officer is to be appointed to monitor the implementation of the EMPR and to promote an integrated approach to the solving of any environment problems on site that may lead to negative impacts on the environment.

8.3 CORRECTIVE ACTION

An essential part of the EMPR is performance measurement. The main purposes of performance measures are to:

- Determine whether the EMPR has been implemented appropriately.
- Check that risk controls have been implemented and are effective.
- Learn from the system failures through incident investigations.
- Provide information that can be used to review and, where necessary, improve aspects of the system.

There are several levels at which corrective action can be implemented. These are listed and described below.

8.3.1 Verbal Instruction

Verbal instructions are likely to be the most frequently used form of corrective action and are given in response to minor transgressions that are evident during routine site inspections. Verbal instructions also create further awareness amongst contractors, as the transgressions may be a function of ignorance rather than vindictiveness.

8.3.2 Written Instructions

Written instructions confirming verbal instructions provided during the audit site inspection will be given following an audit. The written instructions will indicate the source or sources of the problems and proposed solutions to those problems. The implementation of these solutions will be assessed in a follow-up audit and further written instructions issued if required.

At the Employers representative sole discretion, a penalty shall be deducted to remedy issues if written instructions are ignored. Should a contractor not remedy and rehabilitate impacted areas after an environmental incident to the satisfaction of the Employer's representative, then the Employer's representative shall carry out the necessary actions. Costs to remedy environmental incidents as well as rehabilitation of impacted areas shall be paid by the Contractor/s concerned.

8.3.3 Contract Notice

A contract notice is a more extreme form of written notice because it reflects the transgressions as a potential breach of contract. If there is not an adequate response to a contract notice, then the next step can be to have the contractor removed from the site and the contract cancelled.

8.4 PENALTIES AND FINES FOR NON-COMPLIANCE OR MISCONDUCT

This EMPR forms part of the contract agreement between NTT Motors 384 (Pty) Ltd. and the principal contractor. As such, non-compliance with conditions of the EMPR will amount to a breach of contract. Penalties will be issued directly to the contractor by the applicant in the event of non-compliance to the EMPR specifications. The issuing of a penalty will be preceded by a verbal warning by the applicant, as well as strict instruction in at least one monthly EM report to rectify the situation. The EM and NTT Motors 384 (Pty) Ltd. will communicate with regards to realistic time-frames for possible rectification of the contravention, and possible consequences of continued non-compliance to the EMPR.

Penalties incurred do not preclude prosecution under any other law. Cost of rehabilitation and/or repair of environmental resources that were harmed by the actions of the contractor, if such actions were in contravention of the specifications of the EMPR will be borne by the contractor himself. Penalties may be issued over and above such costs. The repair or rehabilitation of any environmental damage caused by non-compliance with the EMP cannot be claimed in the Contract Bill, nor can any extension of time be claimed for such works. Penalty amounts shall be deducted from Certificate payments made to the Contractor.

The following categories of non-compliance are an indication of the severity of the contravention, and the fine or penalty amounts may be adjusted depending on the seriousness of the infringement:

- Category One: Acts of non-compliance that are unsightly, a nuisance or disruptive to adjacent landowners, existing communities, tourists or persons passing through the area.
- Category Two: Acts of non-compliance that cause minor environmental impact or localised disturbance.
- Category Three: Acts of non-compliance that affect significant environmental impact extending beyond point source.
- Category Four: Acts of non-compliance that result in major environmental impact affecting large areas, site character, protected species or conservation areas.

9 ENVIRONMENTAL EMERGENCIES AND REMEDIATION

The Holder must identify potential emergencies and develop procedures for preventing and responding to them. There are several options for dealing with high priority impacts and risks, as the paradigm has two components, namely: probability and consequence. The design of control measures rests on understanding the cause and effect. Best practise is to intervene with the ultimate factors where feasible, rather than treat the outcomes. Emergency response, therefore, has the option of reducing probability, or reducing the consequence, whereby reducing the probability is the preferred option. Below are some common emergency preparedness approaches:

- Treat consequence if and when the risk occurs;
- Combine reducing the probability and treating the consequence;
- Offset environmental losses by investing in other assets;
- Not manage some of the risks because there are too many; and
- Make provision to manage residual impacts or issues that arise due to shortcomings in risk identification and rating, avoidance and mitigation or if a rare event has occurred.

Residual impacts are those impacts that despite reducing the probability and consequence might still occur. In these cases, parties will have to be compensated, the pollution cleaned up and damage to the environment remediated.

The Holder shall be required to develop and implement an Emergency Preparedness and Response Plan, which should be based on a baseline Hazard and Risk Assessment and should provide for the following as a minimum:

- Risk assessment (identification of areas where accidents and emergency situations may occur, communities and individuals that may be impacted);
- Response procedures;
- Provision of equipment and resources;
- Designation of responsibilities;
- Communication and reporting (including with potentially Affected Communities)
- Periodic training to ensure effective response; and
- Periodic review and revision, as necessary, to reflect changing conditions.

The Emergency Preparedness and Response Plan should make provision for environmental emergencies, including, the following:

- Fire prevention;
- Fire emergency response;
- Spill prevention;
- Spill response;
- Contamination of a water resource;
- Accidents to employees; and
- Use of hazardous substances and materials, etc.

The Holder and Contractor must ensure that lists of all emergency telephone numbers/contact persons (including fire control) are kept up to date and that all numbers and names are posted at relevant accessible locations throughout the lifespan of the project.

9.1 FIRE PREVENTION AND RESPONSE

As fire poses a significant risk to agricultural activities, residential structures and the environment, it requires special attention in the Emergency Response Plan. Sparks generated during construction and operations (e.g. welding, cutting of metal or gas cutting) can result in fires. Every possible precaution shall be taken when working with this equipment near potential sources of combustion such as dry vegetation. The Contractor/Holder must take all reasonable measures to ensure that fires are not started due to activities on site. No smoking is allowed near hydrocarbon sources or containers with flammable contents or at areas that are highly flammable. Smoking is only permitted at areas designated for smoking. No open fires are permitted on site and no burning of waste is to be allowed on site. The Contractor/Holder shall ensure that there is sufficient firefighting equipment available on site. This includes having an approved fire extinguisher immediately available at the site of any such activities. The Contractor/Holder is to ensure that he/she has the contact details of the nearest fire station in case of an emergency. Appropriate and correctly serviced equipment must be available for all activities that are likely to generate fire.

Firebreaks may be required around the site perimeter. It is recommended that such fire prevention measures are implemented in consultation with adjacent landowners and where necessary that the Holder coordinates fire prevention efforts with local Fire Protection Association.

9.2 HEALTH AND SAFETY

The Holder and Contractor/s shall make allowance for the supply, erection, maintenance and removal of the information boards where appropriate. Information boards shall provide the name of the relevant contact person and contact number. This will ensure that the public has access to request information and/or to lodge any complaints. The information boards will essentially be to advise the public of the construction activities to be undertaken or being undertaken and where applicable to advise of the prohibition of entering demarcated "no go" areas.

The Holder and Contractor must ensure that compliance with the Occupational Health and Safety Act (Act No. 85 of 1993) is strictly adhered to. All reasonable measures must be taken to ensure the safety of all site staff and the surrounding community is not compromised. No weapons may be brought onto the property by any person. Where fencing is temporarily affected, temporary security must be provided at all times until the fence is reinstated.

The Holder and Contractor/s must ensure that all vehicles using public roads are in a roadworthy condition, that drivers adhere to the speed limits and that their loads are secured and that all local, provincial and national regulations are adhered to. Provision shall be made for flagmen to regulate traffic and construction vehicles when necessary.

The Holder and Contractor must ensure that all accidents and incidents are recorded and, where appropriate, reported to the ECO. The Holder/Contractor must have easy access to all relevant emergency numbers (for example, spill response teams, fire authorities, fire protection associations, medical emergency, nearest

emergency rooms/hospitals to the site, of both private and public hospitals). The Holder and Contractor/s must take all reasonable measures to ensure the health and safety of all employees, visitors and the public.

9.3 SPILL RESPONSE PROCEDURE

All workers on site must be instructed with regards to the implementation of spill prevention measures and spill response procedures. In the event of a spill, the following general requirements shall apply, and the detailed spill procedure must cater for these requirements:

- Immediate reporting of spills by all employees and/or visitors to the relevant supervisor and EO (this requirement must be included in induction training);
- Take immediate action to contain or stop the spill where it is safe to do so;
- Contain the spill and prevent its further spread (e.g. earth berm or oil absorbent materials for spill to land or by deploying booms and/or absorbent material for a spill to water);
- Dispose of any contaminated soil or materials according to appropriate waste disposal procedure. Note: Waste from spills of hazardous materials shall be disposed of as hazardous waste at a suitably licensed waste disposal facility;
- The Contractor's EO and Holder EO shall record details of the spill in their respective incident registers;
- Photographic evidence shall be obtained of the spill clean-up.

Should large spills occur, the services of a specialist spill response agency shall be required, who shall advise on appropriate clean-up procedures and follow-up monitoring (if required).

Spills classified as medium or major incidents, require that the EO shall immediately inform the ECO. The ECO shall record the incident in the ECO's non-compliance and incident register and advise on the appropriate measures and timeframes for corrective action. Environmental incident reports shall be completed and submitted to the Project Manager and ECO within 5 working days for all medium and major incidents. If there is a requirement to report the incident to the authorities, this shall be done by the Applicant in consultation with the ECO.

As per Section 30 of the NEMA, the Applicant /Holder must notify the Director-General (DWS and DEA), South African Police Services, Limpopo Environmental Authority (LEDET) and Local Municipality (Modimolle/Mookgophong Local Municipality) and any persons whose health may be affected by the nature of an incident including:

- Any risks posed to public health, safety and property;
- Toxicity of the substance or by products released by the incident; and
- Any steps taken to avoid or minimise the effects of the incident on public health and the environment.
- The Holder and Contractor must ensure that lists of all emergency telephone numbers/contact persons (including fire control) are kept up to date and that all numbers and names are posted at relevant accessible locations throughout the lifespan of the project.

9.4 MEASURES TO CONTROL OR REMEDY ANY CAUSES OF POLLUTION OR DEGRADATION

The broad measures to control or remedy any causes of pollution or environmental degradation as a result of the proposed activities are provided below:

- Limit the size of the area to be disturbed as far as is practically possible;

- Design and construct infrastructure with necessary clean and dirty water separation, containment, and stormwater management plans;
- Conduct regular inspections in line with the regulatory requirements;
- Establish and maintain dirty and clean water systems in line with the regulatory requirements;
- Contain potential pollutants and contaminants (where possible) at source;
- Handling of potential pollutants and contaminants (where possible) must be conducted in bunded areas and on impermeable substrates;
- Ensure the timeous clean-up of any spills;
- Implement a waste management system for all waste streams present on site;

9.5 WATER POLLUTION EMERGENCY INCIDENT

A water Pollution Emergency Incident is any accident /incident in which a substance pollutes or has the potential to pollute a water resource or a substance that has or is likely to have a detrimental effect on a water resource.

The responsible person who was in control of the substance involved in the incident at the time will immediately inform the ECO and supervisor of the area where the incident occurred.

The information with regard to the incident is communicated to the Holder / Contractor and ECO immediately. The EM and Developer must, as soon as reasonably practicable after becoming aware of the incident, (i.e. within 14 days) report to:

- Department of Water and Sanitation (Regional Manager);
- South African Police Services or relevant fire department; and
- The Catchment Management Agency.
- The EM and crisis management team must:
  - Take all reasonable measures to contain and minimise the effects of the incident;
  - Undertake clean-up procedures;
  - Remedy the effects of the incidents; and
  - Sample the water together with the responsible person of the area.

9.6 RECORDS

Records must be kept of all environmental emergencies and non-conformances.

9.7 DEFINING AND ENVIRONMENTAL RESPONSE PLAN

Environmental emergencies occur over the short term and require an immediate response. The plan should be disseminated to all employees and contractors and in the event of an emergency, it should be consulted.

This Environmental Emergency Response Plan should be used together with the Emergency Preparedness Plan placed on the site where it will be easily viewed. The Emergency Response Plan should contain a list of procedures, evacuation routes and a list of emergency contact numbers.

If the environmental emergency has the potential to affect surrounding communities, they should be alerted via alarm signals or contacted in person. The surrounding community will be informed, prior to construction taking place, of the potential dangers and emergencies that exist, and the actions to be taken in such emergencies.

Communication is vital in an emergency and thus communication devices, such as mobile phones, pagers or telephones, must be placed on site. A checklist of emergency response units must be consulted and the relevant units notified.

The checklist includes:

- Fire department;
- Police;
- Emergency health services such as ambulances, paramedic teams, poisons centres;
- Hospitals, both local and further afield, for specialist care;
- Public health authorities;
- Environmental agencies, especially those responsible for air, water and waste issues;
- Other industrial facilities in the vicinity with emergency response facilities;
- Public works and highways departments, port and airport authorities; and
- Public information authorities and media organisations.

10 ENVIRONMENTAL AWARENESS PLAN

Environmental awareness training is important for two primary reasons:

a) The workforce must understand how they can play a role in achieving the objectives specified in the EMPR; and
b) The workforce must understand their obligations in terms of the implementation of the EMPR and adherence to environmental-legislative requirements.

This environmental awareness plan is aimed at ensuring that employees, contractors, subcontractors and other relevant parties are aware of and able to meet their environmental commitments. This plan is to be updated on a yearly basis during the phases of the project in light of operational changes, learning experiences and identified training needs.

All full-time staff and contractors are required to attend an induction session when they start, which session should include environmental aspects.

It is, therefore, recommended that the ECO and contractor be involved in induction training. The induction sessions may should ensure that all employees gain a suitable understanding of:

- Environmental requirements of the project, and how these will be implemented and monitored;
- Including each employee's responsibilities with respect to environmental issues;
- Contents and commitments of the EMPR, including no-go areas, employee conduct, pollution prevention (prohibitions against littering, unauthorized fires, loud music, entry to adjacent properties, road conduct etc.);
- Environmentally sensitive areas on and around the development sites, including why these are deemed important and how these are to be managed. Employees will also be made aware of protected species found on the existing and surrounding site and how these are to be conserved, as well as alien invasive species potentially found on the site and how these should be managed; and
- Incident identification, remediation and reporting requirements: what constitutes an environmental incident (spillages, fire, etc.) and how to react when such an incident occurs.

Environmental training will not be restricted to induction training sessions alone, but will be conducted on an

on-going basis throughout the lifecycle of the project as and when required. Records are to be kept of the type of training given (matters discussed and by whom), date on which training was given and the attendees of each training session.

11 STAKEHOLDER ENGAGEMENT

Social impacts occur immediately in the planning phase of a project and as such it is essential to start with stakeholder engagement as early in the process as possible. Stakeholder Engagement commenced during the BA process for the project, in accordance with the relevant legislation. Stakeholder Engagement is however, required on an ongoing basis throughout the execution of the proposed Witwater Airstrip operation. As such, it is recommended that the Holder develop and implement a detailed Stakeholder Engagement Plan (SEP), designed to work as a living document for implementation over the entire operation period of the Witwater Airstrip.

11.1 GRIEVANCE OR COMPLAINTS MECHANISM

In accordance with international good practice, the Holder shall establish a specific mechanism for dealing with grievances/complaints. A grievance is a complaint or concern raised by an individual or organisation that indicates or states that they have been adversely affected by the project during any stage of its lifespan. Grievances may take the form of specific complaints for actual damages or injury, general concerns about project activities, incidents and impacts, or perceived impacts. Grievance Mechanisms should provide a structured way of receiving and resolving grievances. Complaints should be addressed promptly using an understandable and transparent process that is appropriate and acceptable to all segments of affected communities and is at no cost and without retribution. The mechanism should be appropriate to the scale of impacts and risks presented by a project/development and beneficial for both the company and stakeholders. The mechanism must not impede access to other judicial or administrative remedies.

The proposed grievance mechanism shall be based on the following principles:

- Transparency and fairness;
- Accessibility and cultural appropriateness;
- Openness and communication regularity;
- Written records;
- Dialogue and site visits; and
- Timely resolution.

Based on the principles described above, the grievance mechanism process involves four stages:

- Receiving and recording the grievance;
- Acknowledgement and registration;
- Site inspection and investigation; and
- Response.

12 FAILURE TO COMPLY WITH ENVIRONMENTAL CONSIDERATIONS

Within the provisions of the relevant environmental legislation, there are a number of penalties for noncompliance or offences. Below are a few extracts presented for information purposes. However, these must not be read in isolation and the reader is reminded that there are other Acts that may be applicable to the

relevant project:

- NEMA Section 49A(c): It is an offence for any person to fail to comply with or to contravene the conditions of an environmental authorisation granted for a listed activity or specified activity or an approved environmental management programme; 49B(1) states that a person convicted for an offence under 49A(c) is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such fine or such imprisonment;
- NEMA Section 34(6): Whenever any manager, agent or employee does or omits to do an act which it had been his or her task to do, or to refrain from doing on behalf of the employer and which would be an offence under any provision listed in Schedule 3 (relates to all environmental related acts) for the employer to do or omit to do, he or she shall be liable to be convicted and sentenced in respect thereof as if he or she were the employer;
- NWA Section 151 (1): No person may fail to comply with any condition attached to a permitted water use (Water Use License);
- NWA Section 151 (2): Any person who contravenes any provision of subsection 1 is guilty of an offence and liable, on the first conviction, to a fine or imprisonment for a period not exceeding 5 years or to both a fine and such imprisonment (10 years for second conviction);
- NEMA: If anyone is convicted of an offence under the act which has resulted in harm, loss or damage to any other person, the court may award damages to be paid by the accused or convicted; and
- NWA Section 154: Makes provision that it is not only the applicant that may be liable but also an employee or agent acting on their behalf.

It is recommended that a procedure for non-compliances (i.e. incentives or disincentives for compliance and non-conformance with the EMPR requirements) must be employed to ensure that the EMPR is adequately implemented. The system to be used must be determined before production commences, included in the tender documents and contracts, and made clear to all project workers.

13 AMENDMENTS

The EMPR may need to be modified during the project phase. All proposed changes to EMPR are reviewed by the ECO before being issued as formal changes, as documented in the audit report. Copies of any modifications will be issued to recipients of this report and forwarded to LEDET as set forth in the report log at the end of this document.

14 UNDERTAKINGS

COMMITMENT/UNDERTAKING BY THE APPLICANT

I, Fred Wheelton, the undersigned and duly authorised thereto by NTT Motors 384 (Pty) Ltd., undertake to adhere to the requirements and to the conditions as set out in the EMPR submitted to the Limpopo Department of Economic Development, Environment and Tourism (LEDET) and approved on .....

.....

Signed at Stellenbosch on this 10th day of October 2023

Signature of applicant .....

Designation CEO

The EAP, **Sonja van de Giessen** from **Elemental Sustainability (Pty) Ltd**, herewith confirms

a) The correctness of the information provided in the reports;

b) The inclusion of comments and inputs from stakeholders and I&APs where relevant;

c) The inclusion of inputs and recommendations from the specialist reports where relevant; and

d) The acceptability of the project in relation to the finding of the assessment and level of mitigation proposed;

Signed at.....**Pretoria**.....on this..... day .....

Signature of EAP .....

Designation: ***Senior Consultant (Authorisations Manager)***

-END-

REFERENCES

Agri Civils Geo-Tech & Heritage, September 2022. Phase 1 Heritage Impact Assessment for the Proposed NTT Witwater Airfield on the Farm 948 KR near Vaalwater, Limnpopo Province.

Bamford, M. 2023. Palaeontological Impact Assessment for the proposed NTT Witwater Airfield, northwest of Mokopane, Limpopo Province

Elemental Sustainability (Pty) Ltd. 2023. Watercourse Impact Assessment for the proposed Witwater Airfield, Limpopo Province

Enviridi Environmental Consultants (Pty) Ltd. 2023. NTT Motors 384 (Pty) Ltd. Witwater Airfield Development Terrestrial Biodiversity Impact Assessment.

Modimille-Mookgophong Local Municipality 2022-2026 Final IDP, Integrated Development Plan 2022/23 - 2026/27, May 2022.

Southern Geotechnical Engineering (Pty) Ltd. 2023. Witwater Airfield, Limpopo Province - Geotechnical Investigation Report.