

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)



CONSTRUCTION AND OPERATION OF THE PROPOSED TOURISM ESTABLISHMENT **(DESERT ELEPHANT CAMPSITE AND TENTED CAMP)**, UIBASSEN CONSERVANCY, KUNENE REGION



12 September 2024



+264 61 225 776 / +264 811 220 114



info@tec.com.na / www.tec.com.na

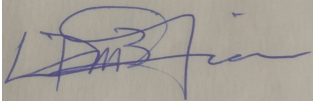




P.O.Box 35473, Kleine Kuppe, Windhoek



Unit 17, No. 40, Berg Street, Klein Windhoek, Windhoek, Namibia



DOCUMENT INFORMATION		
Title	Environmental Management Plan (ESMP) for the Construction and Operation of the proposed Tourism Establishment (Desert Elephant Campsite and Tented Camp)	
ECC Application Reference number	APP:	
Listed Activity (EMA, Act No. 7 of 2007 and EIA regulations of 2012)	<p>Activity 2: Waste Management, Treatment, Handling and Disposal 2.1 The Construction of facilities for waste sites, treatment, and disposal of waste</p> <p>Activity 6: Tourism Development 6. Construction of resorts, lodges, hotels or other tourism and hospitality facilities</p>	
Location	Twyfelfontein, Uibasen Conservancy, Kunene Region	
Proponent	Desert Elephant Campsite and Tented Camp Jemara Business Trust Mr. Lesley Gariseb P.O. Box 41156 Mobile: +264 81 480 2908 E-mail: jemara@iway.na	
		12 September 2024
Author:	Signature	Date
Ms. Laina Alexander (EAP) ¹		08 September 2024
Reviewer:		12 September 2024
Mr. Jonas Heita (EAP)		
Copy Right: <i>"This document is the intellectual property of TEC and may only be used for the intended purpose. Unauthorized use, duplication, plagiarism or copying without referencing is prohibited"</i>		

¹ EAP – Environmental Assessment Practitioner

ACRONYMS

BID	Background Information Document
DEA	Department of Environmental Affairs
DSR	Draft Scoping Report
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
ESMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
PPE	Personal Protective Equipment
SM	Site Manager
TEC	Tortoise Environmental Consultants

TABLE OF CONTENTS

1. INTRODUCTION	1
1.1. Tourism Development	1
1.2. Location of the Desert Elephant Campsite and Tented Camp	1
1.3. Marketing.....	1
1.3.1. Guided Twyfelfontein rock engravings excursion.....	1
1.3.2. Guided Desert Elephants Excursions.....	2
1.3.3. Tourism Viability in Namibia	3
1.4. Socio-Economic Development	4
1.5. Environment versus Economic Development.....	4
1.6. Proposed Investment (estimate).....	4
2. Environmental management plan (ESMP) Context.....	6
2.1 ESMP Requirements	6
2.2 What is an ESMP?	6
2.3 Objective.....	7
2.4 ESMP Scope	7
2.5 Possible adjustments to the ESMP	7
2.6 Implementation Framework and Accountability to the ESMP.....	8
3. ROLES AND RESPONSIBILITIES	9
3.1 Roles and Responsibilities	9
3.1.1 The Environmental Compliance Officer (ECO):	9
3.1.2 The Proponent:.....	10
3.1.3 The Site Manager:.....	10
3.2 ESMP Implementation Context	10
3.3 Instructions	11
3.4 Disciplinary Actions	11
4. POTENTIAL IMPACTS AND MITIGATION MEASURES	12
4.1 Impact Themes and Recommended Mitigation Measures	12
5. REHABILITATION	23

5.1	Importance of Rehabilitation.....	23
5.2	What is Rehabilitation?.....	23
5.3	Designing a Rehabilitation Plan.....	23
5.4	Conclusion.....	23
6.	ENVIRONMENTAL PERFORMANCE MONITORING	25
6.1	Environmental Performance Monitoring Plan - Overview.....	25
6.2	Reporting and Documentation.....	25
6.3	Auditing and Review.....	25
7.	CONCLUSION.....	36

FIGURES

Figure 1.1:	Twyfelfontein rock engravings	1
Figure 1.2:	Desert Elephants are a major attraction to Twyfelfontein	2
Figure 1.3:	Desert Elephant expedition.....	2
Figure 1.4:	Tourism viability in Namibia	3
Figure 1.5	Location and Layout – Desert Elephant Campsite and Tented Camp (Site A)	5

TABLES

Table 2:1:	ESMP Requirements as outlined in Section 8 of the EIA Regulations	6
Table 2:1:	Role players, Institutional Framework.....	8
Table 4-1:	Identified socio-economic impacts.....	13
Table 4-2:	Mitigation measures pertaining to staff Recruitment and Induction	14
Table 4-3:	Mitigation measures pertaining to Health and Safety	16
Table 4-4:	Mitigation measures pertaining to Waste Management.....	17
Table 4-5:	Mitigation measures pertaining to vegetation and landscape alteration	19
Table 4-6:	Mitigation measures pertaining to water abstraction	20
Table 4-7:	Mitigation measures pertaining to Socio Economic impacts.....	21
Table 4-8:	Mitigation measures pertaining to Cultural Heritage impacts	22
Table 4-9:	Potential impacts and Mitigation measures pertaining to Rehabilitation	24
Table 6-1:	Monitoring of measures pertaining to staff Recruitment and Induction	26
Table 6-2:	Monitoring of measures pertaining to Health and Safety.....	28
Table 6-3:	Monitoring of measures pertaining to Waste Management	30
Table 6-4:	Mitigation measures pertaining to vegetation and landscape alteration	32

Table 6-5: Monitoring of measures pertaining to water abstraction	34
Table 6-6: Monitoring of measures pertaining to community safety	35

1. INTRODUCTION

1.1. Tourism Development

Kunene region is one of the main tourism destinations of Namibia. The region is well endowed with unique attractions consisting of natural attractions such as the desert landscape with beautiful scenery and wide-open spaces, several ephemeral rivers meandering through the desert enroute to the Atlantic Ocean.

1.2. Location of the Desert Elephant Campsite and Tented Camp

The proposed Lodge is located at Twyfelfontein, about 3 km from the D2612 district road, about 3 km north of the Aba-huab River to, 300m from the D3254 junction and about 10 km to the renowned Twyfelfontein UNESCO World Heritage Site.

Location: GPS coordinates: -20.52231 S and 14.41145 E

1.3. Marketing

The proposed site is highly marketable, as it is strategically located in close proximity to the main tourist attractions: (a) Twyfelfontein Rock engravings, (b) the Burnt Mountain, (c) Organ Pipes, (d) Damara Living Museum and (d) the Desert Elephants.

1.3.1. Guided Twyfelfontein rock engravings excursion

Twyfelfontein is famous for its many rock paintings and rock engravings (Petroglyphs), done by the San (Bushmen), estimated to be about 1,000 – 10,000 years. The area was designated a national monument in 1948, and inscribed by UNESCO as Namibia's first World Heritage Site in 2007.



Figure 1.1: Twyfelfontein rock engravings

1.3.2. Guided Desert Elephants Excursions

One of the main attractions of the area for most overseas visitors is the chance to track the rare desert dwelling elephants and free-roaming black rhino.

Damaraland is one of the few places in Southern Africa where the magnificent wildlife of Africa can be found outside of National Parks or private game reserves, and co-exist with traditional villages and farms.



Figure 1.2: Desert Elephants are a major attraction to Twyfelfontein



Figure 1.3: Desert Elephant expedition

1.3.3. Tourism Viability in Namibia



Eagle FM Namibia

18 m · 🌐



Namibia Made Over N\$14.8 Billion From Tourists in 2022

Hertha Ekandjo

In 2022, Namibia's tourism sector played a pivotal role in the country's economy, with tourists bringing in approximately N\$14.8 billion from a total of 527,610 inbound visitors.

A majority of these visitors, exceeding 421,000, were categorised as being on holiday, leisure, or recreation, contributing about N\$12.0 billion (81.1% of the overall inbound expenditure) to the total.

Read the full article:



Figure 1.4: Tourism viability in Namibia

1.4. Socio-Economic Development

The lodge development is expected to yield positive socio-economic benefits to the local communities through trophy hunting concession fees, Employment creation and supply chains to the lodge and will contribute to national development, in-line with the national development plans (NDP5, HPP and Vision 2030)

The proposed development will provide significant socio-economic benefits to the local community (through Employment and supply chains), in line with the Uibasen Conservancy programs, under the auspices of the Traditional Authority

1.5. Environment versus Economic Development

Namibia's economy is highly dependent on a healthy environment and striking a balance in meeting demands for economic development and maintaining biological diversity remains a priority. Therefore, it is of utmost importance that the environment and development sectors should work together and identify synergies in-order to ensure that natural resources are utilized in an acceptable and sustainable manner.

A well-planned tourist lodge can help promote conservation efforts by raising awareness about the importance of preserving the natural environment. It can serve as a basis for educating visitors about the local ecosystem, endangered species, and the conservation initiatives that the conservancy is promoting.

Upgrades that ensure a high-end lodge creates economic incentives for conservancy members to contribute towards protection and conservation of the natural resources. Income generated from the activities such as game drives, will be used to further support conservation projects within the conservancy and will also provide alternative livelihoods to conservancy members.

The aim of undertaking environmental assessments is therefore to guide the sustainable utilization of natural resources and to mitigate negative impacts that would otherwise compromise the environmental integrity and future ecosystem benefits.

1.6. Proposed Investment (estimate)

The estimated investment for the construction of and operation of the Desert Elephant Campsite and Tented Camp is **NAD 5 million**.

The proposed investment is a significant and will enhance socio-economic development for the Uibasen conservancy and the community at large.

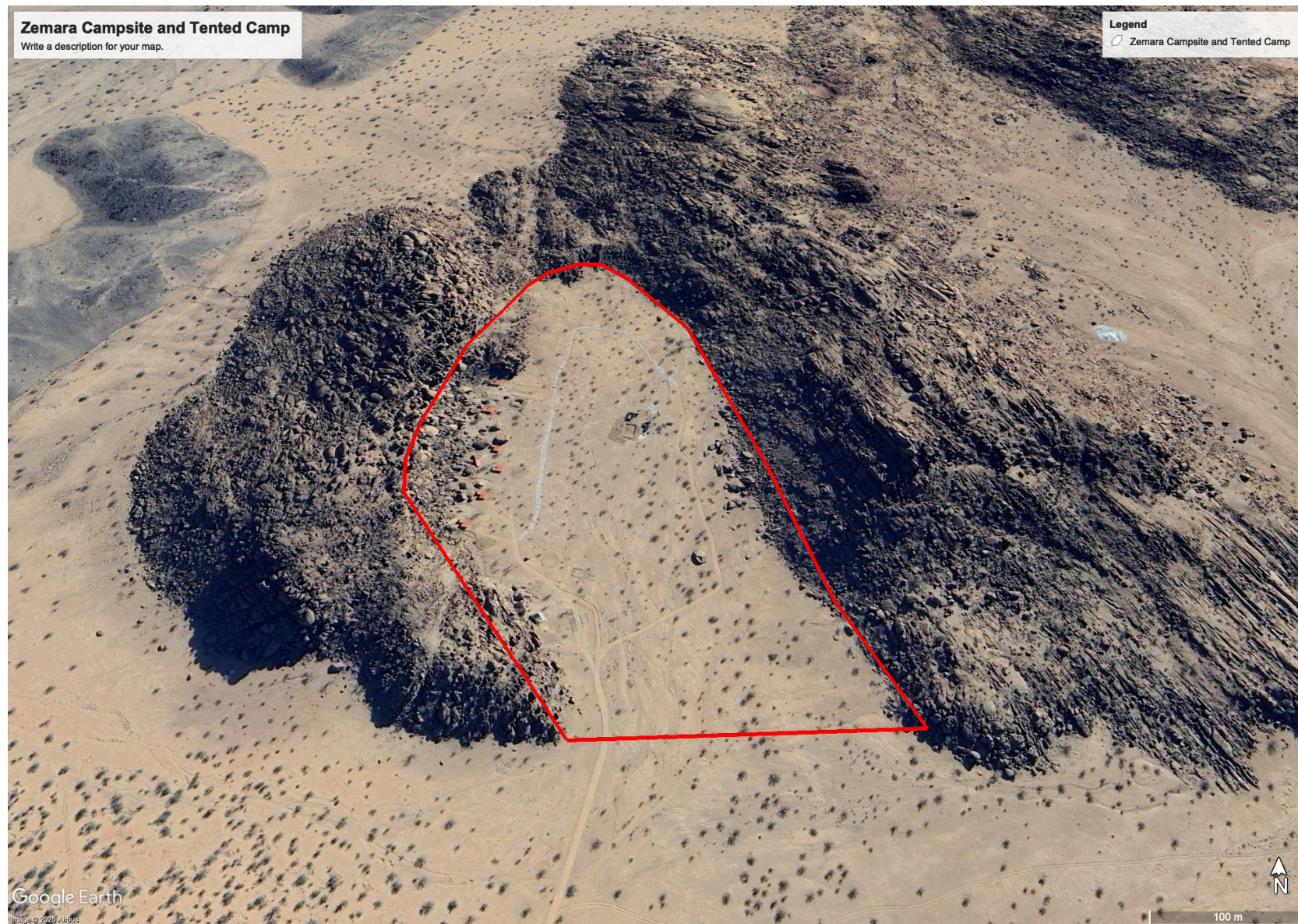


Figure 1.5 Location and Layout – Desert Elephant Campsite and Tented Camp (Site A)

2. ENVIRONMENTAL MANAGEMENT PLAN (ESMP) CONTEXT

This document constitutes the Environmental Management Plan (ESMP) for the upgrading of the hunting camp into a lodge and subsequent issuance of an Environmental Clearance Certificate (ECC) construction and operation for the Twyfontein Lodge.

2.1 ESMP Requirements

The Environmental Management Act (also referred to as the EMA), stipulates that for each developmental project, which is listed under the EIA regulations, an Environmental Impact Assessment (EIA) should be conducted.

The EMP should conform to the provisions of the Environmental Management Act (EMA), Act No. 7 of 2007 and EIA regulations of 2012 (Government Notice: 30).

The EIA Regulations defines a '*Management Plan*' as:

"...a plan that describes how activities that may have significant impacts on the environment are to be mitigated controlled and monitored."

Table 2:1: ESMP Requirements as outlined in Section 8 of the EIA Regulations

Requirement
<p>(j) a draft management plan, which includes –</p> <p>(aa) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;</p> <p>(bb) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and</p> <p>(cc) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.</p>

2.2 What is an ESMP?

The Environmental Management Plan (ESMP) is a tool used to mitigate potential environmental risks associated with the proposed project / activity, and provides a risk management strategy and logical framework for implementation of the activities associated with the proposed road upgrade. This is done to minimize potential environmental and social impacts identified during the EIA process, in accordance with the provisions of the Environmental Management Act (Act No.7 of 2007), EIA Regulations of 2012 and any other relevant / applicable legislation.

As a result, the ESMP recommends mitigation measures in order to ensure that the recommended upgrading and operation of the lodge and other associated activities are conducted in an environmentally friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations

Furthermore, the ESMP outlines specific roles and responsibilities for role-players against which they can be evaluated and non-compliance is punishable.

2.3 Objective

The objective of the ESMP is to prevent / minimize (where possible), unacceptable and adverse environmental, social or economic impacts that may arise from the proposed development. Overall, the ESMP aims to minimise negative impact/s (real, potential or perceived) that may result from the proposed lodge upgrading activities.

The objective of the EMP is to prevent / minimize, unacceptable and adverse environmental, social or economic impacts identified during the EIA process. Overall, the EMP aims to minimise negative impact/s (real, potential or perceived) that may result from the proposed activities, throughout the project lifespan.

The aim of the ESMP is to ensure that the activities undertaken during construction and operation of the lodge are conducted in accordance with the following:

- i. Environmental Management Act (No. 7 of 2007),
- ii. EIA regulations of 2012 (GN: 30), and
- iii. Best environmental practices (benchmarks)
- iv. Any other applicable legislation (*as presented in Table 3.1 to 3.3*)

The ESMP provides environmental guidelines to be adhered to, throughout the lifespan of the Lodge and associated activities.

2.4 ESMP Scope

The EMP does not only focus, and it is not limited to the proposed construction and operation of the feedlot. It includes the bigger picture and serves as the guiding tool to protecting the natural, bio-physical and socio-economic environment on both the specific site and the surrounding area. The bigger picture is important because some impacts may not be confined to the project site.

2.5 Possible adjustments to the ESMP

The ESMP is an open-ended document and maybe considered inconclusive. In other words, the ESMP should allow room for adjustments if new information becomes available at a later stage, in which new / additional mitigation measures may become necessary.

The necessity of possible adjustments to the ESMP at a later stage may be attributed to:

- a) Lack of information at the time of drafting the initial ESMP,
- b) Evolution or addition of new activities, or
- c) Unintended omission of potential impacts during the initial EIA scoping exercise and development of the initial ESMP.
- d) Development of industry best practice.

This implies that, in-addition to the information contained herein, any other relevant information that may surface during the construction activities, through internal monitoring or auditing by the Environmental Compliance Officers (ECOs), can be added to the ESMP (evolution of activities), and such changes or inclusions will be binding to the proponent and all contractors / sub-contractors.

2.6 Implementation Framework and Accountability to the ESMP

For effective implementation of the ESMP, the Institutional roles are presented below. However, the specific roles and responsibilities are defined and broken down as presented in Sections 4 and 5, respectively.

Table 2:2: Role players, Institutional Framework

Role-player	Company / Institution	Role
Proponent	Desert Elephant Campsite and Tented Camp	Compliance to the ESMP
Environmental Consultant	Tortoise Environmental Consultants (TEC)	Development of the ESMP
Environmental Compliance Officer/s (ECO)	Ministry of Environment & Tourism (MET) – Department of Environmental Affairs (DEA)	Monitoring Compliance to ESMP: <ul style="list-style-type: none"> ➤ Un-announced spot checks, ➤ Corrective measures, warning, penalties / fines, license suspension, etc
Public	Interested and affected parties (I&APs)	Report to the ECOs, any activity of environmental concern (e.g Pollution, safety risks, etc)

3. ROLES AND RESPONSIBILITIES

This section outlines the roles and responsibilities of the key personnel responsible for the day-to-day management of activities to ensure effective implementation of the ESMP.

3.1 Roles and Responsibilities

To ensure accountability, it is necessary to assign responsibilities. The key role-players for project implementation are;

- a) The **Environmental Compliance Officer (ECO)** representing the Ministry of Environment and Tourism (MET), or an appointed independent environmental officer, who is responsible for monitoring and auditing.
- b) **The Proponent:** Owner / Project Manager.
- c) **The Site Manager** the person responsible for the day-to-day management of the project.

3.1.1 The Environmental Compliance Officer (ECO):

The ECO refers to the party responsible for the environmental monitoring and auditing to ensure that the provisions of the ESMP are complied with.

The ECO shall have adequate environmental knowledge to understand and interpret the ESMP and pertaining environmental aspects associated with the project. The specific tasks of the ECO are as follows:

- To undertake all monitoring and auditing activities in-order to ensure compliance with the ESMP.
- Conduct site inspection prior to the commencement of activities; and at reasonable intervals (e.g. every month, quarterly or annually), throughout the duration of the project. Depending on the risks, some projects may be inspected more frequently (e.g. every month).
- Conduct regular inspections (unannounced spot checks) and shall submit compliance or non-compliance reports to the respective authorities (MET or any other relevant authority).
- Compile Progress Reports immediately after site inspections, Compliance Reports, pertaining to any non-compliance incident/s, and a Rehabilitation Report following the conclusion a specific activity.
- The ECO shall liaise closely with all key stakeholders i.e. the Site Manager and the Environmental Commissioner.
- Shall provide guidance on any environmental management issues, incidents or emergencies that may arise throughout the project lifespan.
- Shall assist in providing recommendations for remedial action in the event of non-compliance.
- Auditing or monitoring activities may involve investigation, as well as structured observation, measurement, and evaluation of environmental data over a period of time.

3.1.2 The Proponent:

The specific responsibilities of The Proponent are as follows:

- Appoint a Site Manager (SM) to oversee the daily onsite activities.
- Liaise closely with the SM and ECO on any environmental management issues, incidents or emergencies.
- Ensure that all activities on and around the site are conducted in accordance with the requirements of the ESMP at all times.
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the ESMP, relevant to their roles on site.
- Shall develop a **communication strategy** between The Proponent, Site Manager, workers, the ECO and any other relevant stakeholder.
- Shall develop an **organisational structure** to ensure that:
 - There are clear channels of communication;
 - There is an organisational hierarchy for effective implementation of the ESMP; and
 - Conflicting or contradictory instructions are eliminated;
 - Ensure that all instructions and official communications regarding environmental matters shall follow the organisational structure as determined
 - Ensure that that ESMP requirements are assigned to specific people / positions with the capacity and experience required for implementation.

3.1.3 The Site Manager:

The **Site Manager (SM)** should:

- Ensure that each team recruited to work at the sites, adheres to the ESMP;
- Ensure that a **copy of the ESMP is kept on site at all times and as it may be requested by authorities conducting spot checks at any time.**
- Ensure that all staff attend an induction session before commencement of any work on site and that they are adequately informed of the requirements of the ESMP;
- Shall take special care to prevent irreversible damage to the environment;
- Ensure that activities are within the boundaries of the proposed zones as specified Site Map and boundary markings (visible pegs, tape etc).

3.2 ESMP Implementation Context

Environmental management is not only concerned with the final results of The Proponent's operations, but also with how such operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standards of the day-to-day operations required to complete the Works.

The ESMP is an important tool and necessary to mitigate / counter negative environmental or social impacts that may arise from the project. However, in the absence of audits and monitoring, it will become ineffective.

3.3 Instructions

All instructions and official communications shall follow the organizational structure as determined by the proponent. Based on the adopted structure, it is essential that the responsibilities outlined be assigned to specific portfolios / people with adequate capacity.

3.4 Disciplinary Actions

The EMP is a legally binding document. Non-compliance with the EMP may result in disciplinary action being taken against the Proponent. Such actions may take the form of;

- Financial penalties, legal action, fines, and/ or Suspension of work.

The disciplinary actions shall be determined according to the nature and extend of the non-compliance, and exact penalties are to be weighed against the severity of the incident.

4. POTENTIAL IMPACTS AND MITIGATION MEASURES

4.1 Impact Themes and Recommended Mitigation Measures

The ESMP has been categorised into different themes, which serve as a quick guide to the recommended ESMP remedial actions during the construction and Operation stages (Table 4.1 to 4.7).

EMP Themes	Specific Aspects
A – Socio-economic Impacts	Employment
	Local economy
B – Staff induction	EMP availability
	Staff induction
	Recruitment
C – Health and Safety	General safety at workplace
	Alcohol abuse and Drug use
	Fire Risk / Hazard
D – Pollution and Waste Management	Wastewater
	Ablution facilities
	Solid Waste Disposal
	Oil Spills
E – Vegetation and Landscape Alteration	Landscape alteration (damage)
	Ecological disturbances (both fauna and flora)
	Land degradation and loss of topsoil leading to soil erosion
	Visual Impact
F – Surface and Ground water	Water sources and abstraction
G – Community Health and Safety	Exposure of young children to alcohol and drug use
	Teenage pregnancies
	HIV / AIDS
H – Cultural Heritage	Heritage resources / artefacts
I – Rehabilitation	Clean-up and maintain natural / original appeal

SECTION A: SOCIO – ECONOMIC

Table 2-3: Identified socio-economic impacts

Potential Impacts:				
<ul style="list-style-type: none"> ✓ New employment opportunities (both during construction and operation of the project) ✓ Rural development 				
Aspect	Objective	Measures to enhance positive impacts	Indicators for Monitoring and Compliance	Responsible Party
Employment	Create employment opportunities	<ul style="list-style-type: none"> Ensure recruitment of locals during Construction 	<ul style="list-style-type: none"> Employment records – contracts 	Proponent / Contractor
Local economy	Enhance rural development and the local economy	<ul style="list-style-type: none"> Ensure regular road maintenance 	<ul style="list-style-type: none"> Income levels and livelihood improvements Number of new businesses established 	Proponent / Local Authority

SECTION B: STAFF INDUCTION

Table 2-4: Mitigation measures pertaining to staff Recruitment and Induction

Potential Sources of Impacts:				
<ul style="list-style-type: none"> ✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities / actions ✓ Lack of adequate induction to inform the workers about the Do's and Don'ts ✓ Employees working without employment contracts (recipe for labour disputes) 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
EMP availability	Availability of the EMP on site for ease of reference	<ul style="list-style-type: none"> Ensure that a copy of the EMP is kept on site and accessible to team leaders 	<ul style="list-style-type: none"> Availability of EMP on site and accessibility to team leaders 	Site Manager
Staff Induction	To ensure that all staff / employees are conversant with the requirements of the EMP	<ul style="list-style-type: none"> Induction for all staff / employees on the provisions of the EMP before work commencement. Staff members appointed at a later stage should also undergo induction 	<ul style="list-style-type: none"> Induction Minutes and Attendance Register, Signed by each staff member Quarterly minutes 	Site Manager
	Punitive measures for staff, to ensure compliance	<ul style="list-style-type: none"> Adopt a disciplinary system to discipline staff for non-compliance, for offences such as littering, speeding, safety risk (both to themselves and to others), not using ablution facilities, etc. 	<ul style="list-style-type: none"> Number of fines issued daily / per month 	Site Manager
	Orientation of workers about security for both equipment and themselves	<ul style="list-style-type: none"> Orientate workers about security for equipment and themselves & provide contact numbers for Police and other emergency services e.g. Ambulance 	<ul style="list-style-type: none"> Proof of security orientation and emergency contact numbers 	Site Manager

Recruitment	<ul style="list-style-type: none"> • To ensure that all workers have employment contracts (Labour Act No. 11 of 2007) • To ensure adherence to Labour Act No. 11 of 2007 during all phases of the project 	<ul style="list-style-type: none"> • Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later. 	<ul style="list-style-type: none"> • Copy of staff contracts 	Proponent / Site Manager
--------------------	---	--	---	-----------------------------

SECTION C: OCCUPATIONAL HEALTH AND SAFETY

Table 2-5: Mitigation measures pertaining to Health and Safety

Potential Sources of Impacts:				
<ul style="list-style-type: none"> ✓ Inadequate awareness of employees or contractors on general health and safety risks ✓ Safety hazards associated with the equipment handling ✓ Employees not receiving the correct Personal Protective Equipment (PPE) ✓ Employees not adhering to safety rules implemented at the site ✓ Inadequate staff accommodation 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
General Occupational Health and Safety of the employees (injuries)	To ensure safe working conditions per Health and Safety Regulations, Government Notice 156/1997 (GG 1617)	<ul style="list-style-type: none"> • Provide adequate and appropriate personal protective equipment for all workers • Training on relevant aspects of occupational health and safety. 	<ul style="list-style-type: none"> • Adequate protective gear for all staff (issue register) • Training schedule, attendance register, report, pictures, etc 	Site Manager
Staff Accommodation	To ensure adequate and safe staff accommodation	<ul style="list-style-type: none"> • Provide adequate housing and safety (including protection against insects e.g mosquitos) 	<ul style="list-style-type: none"> • Adequate housing 	Site Manager
Alcohol abuse and Drug use	Prevent alcohol and drug use at the project site	<ul style="list-style-type: none"> • Warn employees against alcohol abuse and use of prohibited substances e.g drugs. 	<ul style="list-style-type: none"> • Drunk / Misbehaving employees • Monitor presence of prohibited substances. 	Site Manager
Fire Risk / Hazard	To mitigate fire risk	<ul style="list-style-type: none"> • Avail sufficient fire extinguishers and train staff on how to use them 	<ul style="list-style-type: none"> • Availability of fire extinguishers and service record. 	Site Manager

		<ul style="list-style-type: none"> Demonstrate the use of fire extinguishers and fire hydrants, 	<ul style="list-style-type: none"> Training report, attendance register, pictures, etc 	
--	--	--	---	--

SECTION D: POLLUTION AND WASTE MANAGEMENT

Table 2-6: Mitigation measures pertaining to Waste Management

<u>Potential Sources of Impacts:</u>				
<ul style="list-style-type: none"> ✓ Poor waste disposal (often considered insignificant e.g. littering, oil spills, cement mixers, wash, wastewater, etc) ✓ Leaking or broken sewerage pipes ✓ Storage of unwanted waste (e.g. old / waste tyres) 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Waste Water	<ul style="list-style-type: none"> To avoid effluent discharge into the environment 	<ul style="list-style-type: none"> Refer to regulations on effluent disposal and recommended septic tank and drainage design Be on the look-out and repair any leaking or broken sewer pipes (regardless of how small it may be perceived) 	<ul style="list-style-type: none"> No leakage of sewer pipes 	Site Manager or dedicated Plumber
Ablution facilities	<ul style="list-style-type: none"> To avoid open defecation, environmental pollution and washing of faecal waste into water streams 	<ul style="list-style-type: none"> Recommend Flushing toilets with provision of a containerized septic tank, honey sucked for disposal at approved oxidation ponds, or Adequate pit latrines: Ventilated (closed air-vent), slab (removable), toilet pot (closed). 	<ul style="list-style-type: none"> Ablution facilities (Flushing toilets) Containerised septic tank 	Site Manager

Solid Waste	<ul style="list-style-type: none"> To prevent pollution and maintain a clean environment 	<ul style="list-style-type: none"> Adequate solid waste management (contain – drums / bins, sort, burn combustible materials and recycle non-combustible materials). Ensure appropriate waste collection and removal from the site and dispose at appropriate municipal waste disposal sites. 	<ul style="list-style-type: none"> Scattered waste, Littering and any other unsightly waste at the site (eyesore) 	Site Manager / dedicated Waste Disposal Officer
Oil Spills	<ul style="list-style-type: none"> Ensure waste oil is managed appropriately, and pollution is prevented at all costs 	<ul style="list-style-type: none"> Build a concrete bunding around fuel tanks that is at least 20% larger than the tanks to allow safe working space and prevent spills from spreading. Use of sheeting to prevent soil contamination (e.g. during vehicle servicing). Waste oil should not be stored onsite indefinitely and should be recycled (transfer to oil recycling companies). If an oil spill occurs, collect the contaminated soil, store in drums and dispose at appropriate waste disposal site (e.g. Municipal disposal site). 	<ul style="list-style-type: none"> Concrete bunding at all fuel storage and handling sites Drums or containers for oil recycling and proof of oil transfer to recycling companies 	Site Manager

SECTION E: VEGETATION AND LANDSCAPE ALTERATION

Table 2-7: Mitigation measures pertaining to vegetation and landscape alteration

Potential Sources of impacts: <ul style="list-style-type: none"> ✓ Uncontrolled routes (everyone drives wherever they want) ✓ Disregard of environmental values, concerns and recommendations ✓ Lack of awareness amongst workers and contractors of how their actions may impact on the environment. ✓ Soil erosion and biodiversity loss due to the clearance of vegetation, excavations etc 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring & Compliance	Responsible Party
Landscape alteration (damage)	Limit the number of access roads	Only create access routes as necessary (in line with the site layout plan) and instruct drivers to stick to demarcated roads	Instructions / Meeting Minutes, signed by drivers	Site Manager
Ecological disturbances (both fauna and flora)	Remove trees only as necessary (if it obstructs the and construction process)	Acquire permits from relevant authority for the removal or cutting down of protected trees (Permits to remove protected trees required from MAWF – Forestry)	Photographic records of site before, during and after construction	Site Manager
Land degradation and loss of topsoil leading to soil erosion	To reduce soil erosion	Adopt soil protection measures to mitigate soil erosion against storm water (run-off) Re-use the topsoil / overburden for backfilling	Photographic records of site before commencement	Site Manager
Visual Impact	Minimize / limit visual impact	Limit Landscape alteration Colour Schemes for infrastructure (buildings, walls, fences etc) should blend in with the natural environment	Colour Schemes presented and approved by authorities	Site Manager

SECTION F: SURFACE AND GROUND WATER

Table 2-8: Mitigation measures pertaining to water abstraction

Sources of impacts:				
<ul style="list-style-type: none"> ✓ Water source ✓ Over-abstraction 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Water sources and abstraction	Determine water sources (boreholes, pipeline) and avoid over-abstraction	<ul style="list-style-type: none"> • Abstraction volumes to be within licensed and sustainable limits. • Conduct borehole testing to determine borehole yield and optimum water abstraction rates. • Allow borehole resting for recharge 	<ul style="list-style-type: none"> • Water abstraction volumes 	Site Manager

SECTION G: COMMUNITY HEALTH AND SAFETY

Table 2-9: Mitigation measures pertaining to Socio Economic impacts

Sources of impacts: <ul style="list-style-type: none"> ✓ Lack of awareness on HIV-AIDS ✓ Teenage pregnancies ✓ Exposure to alcohol and drug use 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Exposure to alcohol and Drug use	Prevent negative influence of workers on children regarding alcohol abuse and drug use.	<ul style="list-style-type: none"> • Educate workers on appropriate behavior in local communities. • Prohibit workers from supplying or influencing minors with substances. 	<ul style="list-style-type: none"> • Reports or complaints from community or schools 	Site Manager
Teenage pregnancies	To prevent sexual exposure of young girls to workers	<ul style="list-style-type: none"> • Conduct sexual health awareness (workers and the community) • Discourage pursuing young girls by workers 	<ul style="list-style-type: none"> • Awareness report, attendance register, pictures, etc 	Site Manager
HIV / AIDS	Provide HIV / AIDS awareness to employees	<ul style="list-style-type: none"> • Provide HIV / AIDS awareness at induction • Avail Condoms (e.g in toilets) 	<ul style="list-style-type: none"> • Availability of condoms at and construction site 	Site Manager

SECTION H: CULTURAL HERITAGE

Table 2-10: Mitigation measures pertaining to Cultural Heritage impacts

Sources of impacts:				
✓ Disregard of Cultural Heritage and artefacts				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Heritage Resources / artefacts	Reduce the impacts of and construction and associated earthworks on heritage resources / artefacts	<ul style="list-style-type: none"> Heritage remains or artefacts discovered on site must be reported to the National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461) No artefacts must be removed or be interfered with prior to authorisation from the Namibian National Heritage Council (NHC) Recovery of heritage remains or artefacts discovered and removal thereof should be directed by the National Museum 	Sighting report/s of heritage resources / artefacts	Site Manager

5. REHABILITATION

5.1 Importance of Rehabilitation

Socio-economic development is very important for our livelihood and provides services, income and employment opportunities, and hence activities such as construction of a feedlot are vital and necessary for development.

However, such developmental activities should be conducted in a thoughtful and forward-looking manner. Therefore, to ensure that the land remains valuable for other land uses in the future, rehabilitation should be part and parcel of such developmental activity right from the beginning and throughout the project lifespan.

5.2 What is Rehabilitation?

Rehabilitation is the process of repairing and taking all the necessary actions to limit, minimize and mitigate the damage caused by the developmental activity, in-order to make the land suitable for other uses or to simply beautify the affected area (so that it does not become an eyesore).

Rehabilitation can also be referred to as the measures taken to repair damaged environments (example refilling of excavated pits with the overburden, re-vegetating, removal of unwanted infrastructure, cleaning up pollution etc.).

5.3 Designing a Rehabilitation Plan

A rehabilitation plan refers to a set of steps or measures to be taken in-order to ensure that negative impacts associated with the development at hand are mitigated. This however requires prior planning and integration of rehabilitation activities throughout the project lifespan. Meaning, rehabilitation measures should be taken right from the beginning of the project.

The environmental characteristics of an area where a project is located plays a vital role in designing a rehabilitation plan.

5.4 Conclusion

Construction activities should be undertaken in a responsible and environmentally friendly manner. Although balancing the demands of development and nature is not always clear cut, the importance of minimal disturbance to the natural environment is of utmost importance to safeguard the environment.

SECTION G: REHABILITATION

Table 2-11: Potential impacts and Mitigation measures pertaining to Rehabilitation

Sources of impacts:				
<ul style="list-style-type: none"> ✓ Landscape alteration due to lack of rehabilitation ✓ Loss of topsoil due to lack of restoration measures ✓ Construction pits may become a death trap for animals ✓ Waste (Left over of broken equipment, material offcuts etc) 				
Impact Description	Objective	Mitigation Measures/	Indicators for Monitoring and Compliance	Responsible Party
Habitat alteration and permanent environmental scars of the and construction operations	To minimize habitat alteration and environmental scars	Limit environmental damages e.g. the overburden may be collected and piled and used for re-filling of pits Plant indigenous trees to fill the gaps for trees removed during construction	Re-filling of and construction pits with the overburden Indigenous Trees planted	Site Manager
	Landscaping	Landscaping – refers to re-shaping man-made landforms to blend in with the environment and in order to limit the damage to the natural landscape	Landscaping efforts and modification towards natural state	Site Manager
Waste discarded all over the place	Clean-up	Remove any foreign objects (including infrastructure), that is not needed at site upon project completion	Clean-up after project closure	Site Manager

6. ENVIRONMENTAL PERFORMANCE MONITORING

6.1 Environmental Performance Monitoring Plan - Overview

The purpose of this Environmental Performance Monitoring Plan is to ensure that the operational activities of the feedlot are conducted in compliance with the Environmental Management Plan (EMP), relevant environmental legislation, and best environmental practices.

Objectives:

- To ensure compliance with the EMP, Environmental Clearance Certificate (ECC), and applicable regulations.
- To assess the effectiveness of mitigation measures implemented.
- To ensure that environmental impacts are identified and managed proactively.
- To maintain accurate records for reporting and auditing purposes.

6.2 Reporting and Documentation

Bi-annual Reports will be compiled by the ECO or an appointed consultant and submitted to the Ministry of Environment, Forestry and Tourism (MEFT).

The report will include:

- Summary of monitoring results.
- Non-compliance incidents and corrective measures taken.
- Photographic evidence and data logs.
- Recommendations for improvement.

All monitoring data and reports will be stored on-site and made available during audits or inspections.

6.3 Auditing and Review

Internal audits will be conducted annually to assess the EMP implementation. The Environmental Monitoring Plan will be reviewed and updated as needed, based on audit findings, regulatory changes, or operational adjustments.

DATA SHEET

Monitoring / Environmental Audit Report

SECTION A: STAFF INDUCTION

Table 6-1: Monitoring of measures pertaining to staff Recruitment and Induction

<u>Potential Sources of Impacts:</u>				
<ul style="list-style-type: none"> ✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities / actions ✓ Lack of adequate induction to inform the workers about the Do's and Don'ts ✓ Employees working without employment contracts (recipe for labour disputes) 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Comment + Evidence (Pictures)
EMP availability	Availability of the EMP on site for ease of reference	<ul style="list-style-type: none"> Ensure that a copy of the EMP is kept on site and accessible to team leaders 	<ul style="list-style-type: none"> Availability of EMP on site and accessibility to team leaders 	
Staff Induction	To ensure that all staff / employees are conversant with the requirements of the EMP	<ul style="list-style-type: none"> Induction for all staff / employees on the provisions of the EMP before work commencement. Staff members appointed at a later stage should also undergo induction 	<ul style="list-style-type: none"> Induction Minutes and Attendance Register, Signed by each staff member Quarterly minutes 	
	Punitive measures for staff, to ensure compliance	<ul style="list-style-type: none"> Adopt a disciplinary system to discipline staff for non-compliance, for offences such as littering, speeding, safety risk (both to themselves and to others), not using ablution facilities, etc. 	<ul style="list-style-type: none"> Number of fines issued daily / per month 	

	Orientation of workers about security for both equipment and themselves	<ul style="list-style-type: none"> • Orientate workers about security for equipment and themselves & provide contact numbers for Police and other emergency services e.g. Ambulance 	<ul style="list-style-type: none"> • Proof of security orientation and emergency contact numbers 	
Recruitment	<ul style="list-style-type: none"> • To ensure that all workers have employment contracts (Labour Act No. 11 of 2007) • To ensure adherence to Labour Act No. 11 of 2007 during all phases of the project 	<ul style="list-style-type: none"> • Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later. 	<ul style="list-style-type: none"> • Copy of staff contracts 	

SECTION B: OCCUPATIONAL HEALTH AND SAFETY

Table 6-2: Monitoring of measures pertaining to Health and Safety

<u>Potential Sources of Impacts:</u>				
<ul style="list-style-type: none"> ✓ Inadequate awareness of employees or contractors on general health and safety risks ✓ Safety hazards associated with the equipment handling ✓ Employees not receiving the correct Personal Protective Equipment (PPE) ✓ Employees not adhering to safety rules implemented at the site ✓ Inadequate staff accommodation 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Comment + Evidence (Pictures)
General Occupational Health and Safety of the employees (injuries)	To ensure safe working conditions per Health and Safety Regulations, Government Notice 156/1997 (GG 1617)	<ul style="list-style-type: none"> • Provide adequate and appropriate personal protective equipment for all workers • Training on relevant aspects of occupational health and safety. 	<ul style="list-style-type: none"> • Adequate protective gear for all staff (issue register) • Training schedule, attendance register, report, pictures, etc 	
Staff Accommodation	To ensure adequate and safe staff accommodation	<ul style="list-style-type: none"> • Provide adequate housing and safety (including protection against insects e.g mosquitos) 	<ul style="list-style-type: none"> • Adequate housing 	
Alcohol abuse and Drug use	Prevent alcohol and drug use at the project site	<ul style="list-style-type: none"> • Warn employees against alcohol abuse and use of prohibited substances e.g drugs 	<ul style="list-style-type: none"> • Drunk / Misbehaving employees • Monitor presence of prohibited substances. 	
Fire Risk / Hazard	To mitigate fire risk	<ul style="list-style-type: none"> • Avail sufficient fire extinguishers and train staff on how to use them • Demonstrate the use of fire extinguishers and fire hydrants, 	<ul style="list-style-type: none"> • Availability of fire extinguishers and service record. 	



			<ul style="list-style-type: none"> Training report, attendance register, pictures, etc 	
--	--	--	---	--

SECTION C: POLLUTION AND WASTE MANAGEMENT

Table 6-3: Monitoring of measures pertaining to Waste Management

Potential Sources of Impacts:				
<ul style="list-style-type: none"> ✓ Poor waste disposal (often considered insignificant e.g. littering, oil spills, cement mixers, wash, wastewater, etc) ✓ Leaking or broken sewerage pipes ✓ Storage of unwanted waste (e.g. old / waste tyres) 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Comment + Evidence (Pictures)
Waste Water	<ul style="list-style-type: none"> To avoid effluent discharge into the environment 	<ul style="list-style-type: none"> Refer to regulations on effluent disposal and recommended septic tank and drainage design Be on the look-out and repair any leaking or broken sewer pipes (regardless of how small it may be perceived) 	<ul style="list-style-type: none"> No leakage of sewer pipes 	
Ablution facilities	<ul style="list-style-type: none"> To avoid open defecation, environmental pollution and washing of faecal waste into water streams 	<ul style="list-style-type: none"> Recommend Flushing toilets with provision of a containerized septic tank, honey sucked for disposal at approved oxidation ponds, or Adequate pit latrines: Ventilated (closed air-vent), slab (removable), toilet pot (closed) 	<ul style="list-style-type: none"> Ablution facilities (Flushing toilets) Containerised septic tank 	
Solid Waste	<ul style="list-style-type: none"> To prevent pollution and maintain a clean environment 	<ul style="list-style-type: none"> Adequate solid waste management (contain – drums / bins, sort, burn combustible materials and recycle non-combustible materials). Ensure appropriate waste collection and removal from the site and dispose at appropriate municipal waste disposal sites 	<ul style="list-style-type: none"> Scattered waste, Littering and any other unsightly waste at the site (eyesore) 	

Oil Spills	<ul style="list-style-type: none"> • Ensure waste oil is managed appropriately, and pollution is prevented at all costs 	<ul style="list-style-type: none"> • Build a concrete bunding around fuel tanks that is at least 20% larger than the tanks to allow safe working space and prevent spills from spreading. • Use of sheeting to prevent soil contamination (e.g. during vehicle servicing). • Waste oil should not be stored onsite indefinitely and should be recycled (transfer to oil recycling companies). • If an oil spill occurs, collect the contaminated soil, store in drums and dispose at appropriate waste disposal site (e.g. Municipal disposal site). 	<ul style="list-style-type: none"> • Concrete bunding at all fuel storage and handling sites • Drums or containers for oil recycling and proof of oil transfer to recycling companies 	
-------------------	--	--	---	--

SECTION E: VEGETATION AND LANDSCAPE ALTERATION

Table 6-4: Mitigation measures pertaining to vegetation and landscape alteration

Potential Sources of impacts:				
<ul style="list-style-type: none"> ✓ Uncontrolled routes (everyone drives wherever they want) ✓ Disregard of environmental values, concerns and recommendations ✓ Lack of awareness amongst workers and contractors of how their actions may impact on the environment. ✓ Soil erosion and biodiversity loss due to the clearance of vegetation, excavations etc 				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring & Compliance	Comment + Evidence (Pictures)
Landscape alteration (damage)	Limit the number of access roads	<ul style="list-style-type: none"> Only create access routes as necessary (in line with the site layout plan) and instruct drivers to stick to demarcated roads 	<ul style="list-style-type: none"> Instructions / Meeting Minutes, signed by drivers 	
Ecological disturbances (both fauna and flora)	Remove trees only as necessary (if it obstructs the and construction process)	<ul style="list-style-type: none"> Acquire permits from relevant authority for the removal or cutting down of protected trees (Permits to remove protected trees required from MAWF – Forestry) 	<ul style="list-style-type: none"> Photographic records of site before, during and after construction 	
Land degradation and loss of topsoil leading to soil erosion	To reduce soil erosion	<ul style="list-style-type: none"> Adopt soil protection measures to mitigate soil erosion against storm water (run-off) Re-use the topsoil / overburden for backfilling 	<ul style="list-style-type: none"> Photographic records of site before commencement 	



Visual Impact	Minimize / limit visual impact	<ul style="list-style-type: none"> • Limit Landscape alteration • Colour Schemes for infrastructure (buildings, walls, fences etc) should blend in with the natural environment 	<ul style="list-style-type: none"> • Colour Schemes presented and approved by authorities 	
----------------------	--------------------------------	---	--	--

SECTION E: SURFACE AND GROUND WATER

Table 6-5: Monitoring of measures pertaining to water abstraction

Sources of impacts:				
✓ Over-abstraction				
Aspect	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Comment + Evidence (Pictures)
Water abstraction	Determine water sources (boreholes, pipeline) and avoid over-abstraction	<ul style="list-style-type: none"> Abstraction volumes to be within licensed and sustainable limits. Conduct borehole testing to determine borehole yield and optimum water abstraction rates. Allow borehole resting for recharge 	<ul style="list-style-type: none"> Water abstraction volumes 	

SECTION F: COMMUNITY SAFETY

Table 6-6: Monitoring of measures pertaining to community safety

Sources of impacts: <ul style="list-style-type: none"> ✓ Lack of awareness on HIV-AIDS ✓ Teenage pregnancies ✓ Exposure to alcohol and drug use 				
Aspect	Objective	Mitigation Measures / Management Actions	Indicators for Monitoring and Compliance	Comment + Evidence (Pictures)
Exposure to alcohol and Drug use	Prevent negative influence of workers on children regarding alcohol abuse and drug use.	<ul style="list-style-type: none"> • Educate workers on appropriate behaviour in local communities. • Prohibit workers from supplying or influencing minors with substances. 	<ul style="list-style-type: none"> • Reports or complaints from community or schools 	
Teenage pregnancies	To prevent sexual exposure of young girls to workers	<ul style="list-style-type: none"> • Conduct sexual health awareness (workers and the community) • Discourage pursuing young girls by workers 	<ul style="list-style-type: none"> • Awareness report, attendance register, pictures, etc 	
HIV / AIDS	Provide HIV / AIDS awareness to employees	<ul style="list-style-type: none"> • Provide HIV / AIDS awareness at induction • Avail Condoms (e.g in toilets) 	<ul style="list-style-type: none"> • Availability of condoms at and construction site 	

7. CONCLUSION

The ESMP recommends measures to be implemented by the proponent, the contractor and sub-contractors in order to manage the tourism development activities on behalf of **Desert Elephant Campsite and Tented Camp** (the Proponent), in an environmentally friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations.

In-addition, the aim of the ESMP is to ensure legal compliance to prevent environmental fatal flaws as mitigation for any impacts arising from the construction process at the end of the and construction phase.

Non-compliance against the ESMP is punishable and specific responsibilities has been assigned to role players in-order to ensure that the ESMP is implemented. The key role-players (Proponent, Contractor, Site Manager) as defined under section 4 should:

- **Read** the ESMP (particularly the Site Manager) and ensure that they are fully conversant with provisions of the ESMP,
- If need be, **Ask for clarity** from the Environmental Assessment Practitioner (EAP), Environmental Compliance Officer (ECO) or relevant authority,
- Ensure implementation of the recommended mitigation measures, and
- Communicate defaults / challenges to the ECO as soon as possible.

It is recommended that an Environmental Control Officer (ECO) should monitor (conduct periodic and unannounced ESMP audits) throughout the development phase, in-order to ensure compliance in-accordance with the mitigation measures prescribed in the ESMP.