Tortoise Environmental Consultants(TEC)
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ENVIRONMENTAL MANAGEMENT PLAN (EMP)

APPLICATION OF ENVIRONMENTAL CLEARANCE CERTIFICATE FOR MOREWAG CAMPSITE AND TOURS, KUNENE REGION

SEPTEMBER 2023

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Location	Kunene Region	
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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)
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
PPE	Personal Protective Equipment
RA	Roads Authority
SM	Site Manager
TEC	Tortoise Environmental Consultants

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1. INTRODUCTION

1.1. Renewal of an Environmental Clearance Certificate for Morewag Campsite and Tours

Doro !nawas was gazetted in December 1999. The conservancy was named after the Doros Crater which means 'the place where rhinos roam' in Khoekhoegowab. The mixture of environmental and cultural resources makes the conservancy a suitable place for tourism establishments. The people living in the Doro !nawas area began the process of conservancy formation in the year the conservancy legislation was passed. Defining borders was a long undertaking and the shape of Doro !nawas is testimony to the difficulties of agreeing on boundaries with neighbouring communities. Doro !nawas nearly encloses Uibasen Twyfelfontein Conservancy and borders onto other conservancies on three sides.

Site Location: GPS coordinates:
Latitude -20.564056 S and Longitude 14.657981 E

1.2. Motivation for ECC Application

In terms accommodation, the business already has 8 different camping sites. Thereby, it is offering the option for smaller and bigger tourism groups to arrive for a stay-over. The vision is that in ten years Morewag will have grown from a campsite to a lodge and an exceptional place for agri-tourism.

Applying for an ECC would not only enable the camp and campsite to operate, but it will create much needed employment and contribute towards social upliftment of the community.

1.3. Environmental 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 to derive socio-economic benefits, yet ensuring environmental protection, for sustainability.

A well-planned campsite can promote sustainable development through tourism activities. Income generated from the campsite will support the local economy through employment (salaries) and supply chains (providing services to the campsite).

The aim of environmental assessments is to guide sustainable development and to mitigate negative impacts that would otherwise compromise the environmental integrity and future ecosystem benefits.

1.4. Environmental management plan (EMP) Context

This document constitutes the Environmental Management Plan (EMP) for the for the application of an Environmental Clearance Certificate for the upgrading and operation of Morewag Campsite and Tours. The EMP has been developed 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 (across all sectors).

1.5. What is an EMP?

The Environmental Management Plan (EMP) 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 EMP recommends mitigation measures in order to ensure that the recommended upgrading and operation of the campsite and associated activities are conducted in an environmental friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations

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

1.6. Purpose of the EMP

The purpose of the EMP is to identify potential environmental and social impacts associated with the upgrading and operation activities, in-order to ensure compliance to the EMA.

The aim of the EMP is to ensure that the activities undertaken during construction 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 EMP provides environmental guidelines to be adhered to, throughout the lifespan of the campsite activities.

1.7. Objective

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

1.8. EMP Scope

The EMP does not only focus, and it is not limited to the campsite construction and operation activities, but it includes the bigger picture, and serve 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 campsite.

1.9. Possible adjustments to the EMP

The EMP is an open-ended document and maybe considered inconclusive. In other words, the EMP 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 EMP at a later stage may be attributed to:

a) Lack of information at the time of drafting the initial EMP,
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 EMP.
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 operations, through internal monitoring or auditing by the Environmental Compliance Officers (ECOs), can be added to the EMP (evolution of activities), and such changes or inclusions will be binding to the proponent and all contractors / sub-contractors.

1.10. Implementation Framework and Accountability to the EMP

For effective implementation of the EMP, 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 1:1: Role players, Institutional Framework

Role-player	Company / Institution	Role
Proponent	Morewag Campsite and Tours	Compliance to the EMP
Environmental Consultant	Tortoise Environmental Consultants (TEC)	Development of the EMP
Environmental Compliance Officer/s (ECO)	Ministry of Environment &Tourism (MET) – Department of Environmental Affairs (DEA)	Monitoring Compliance to EMP: ➢ 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)

2. PROJECT INFORMATION

2.1 Project Location

The Morewag Campsite and Tours Morewag Campsite is located on Morewag farm in Damaraland about 45km west of Khorixas in the, Doro !nawas conservancy, Kunene Region (Figure 2.1 and 2.2).

2.2 Project Description

Morewag Campsite and Tours is a leisure and tourism hospitality facility. The campsite consists of camping sites (Figure 2.3), ideal for families, self-drive travelers, overlanders or tour groups.

The area is surrounded by beautiful fauna mainly mopane trees, Welwitschia Mirabillis. The surrounding area is packed with touristic highlights like the Petrified Forest, the rock engravings of Twyfelfontein and the Damara Living Museum. Apart from that the area is also home to the famous desert-dwelling elephants.

2.3 Project Activities

Tourism Activities offered:

- Camping
- Swimming
- Game drive
- Tours to the petrified forest, rock engravings and fountain
- Traditional performances
- Horse riding and donkey cart rides
- Sunrise, sunset and star viewing
- Rock climbing

2.4 Leasehold

The campsite covers about 23.5 ha and is operated under a 10-year Leasehold.

2.5 Site Layout

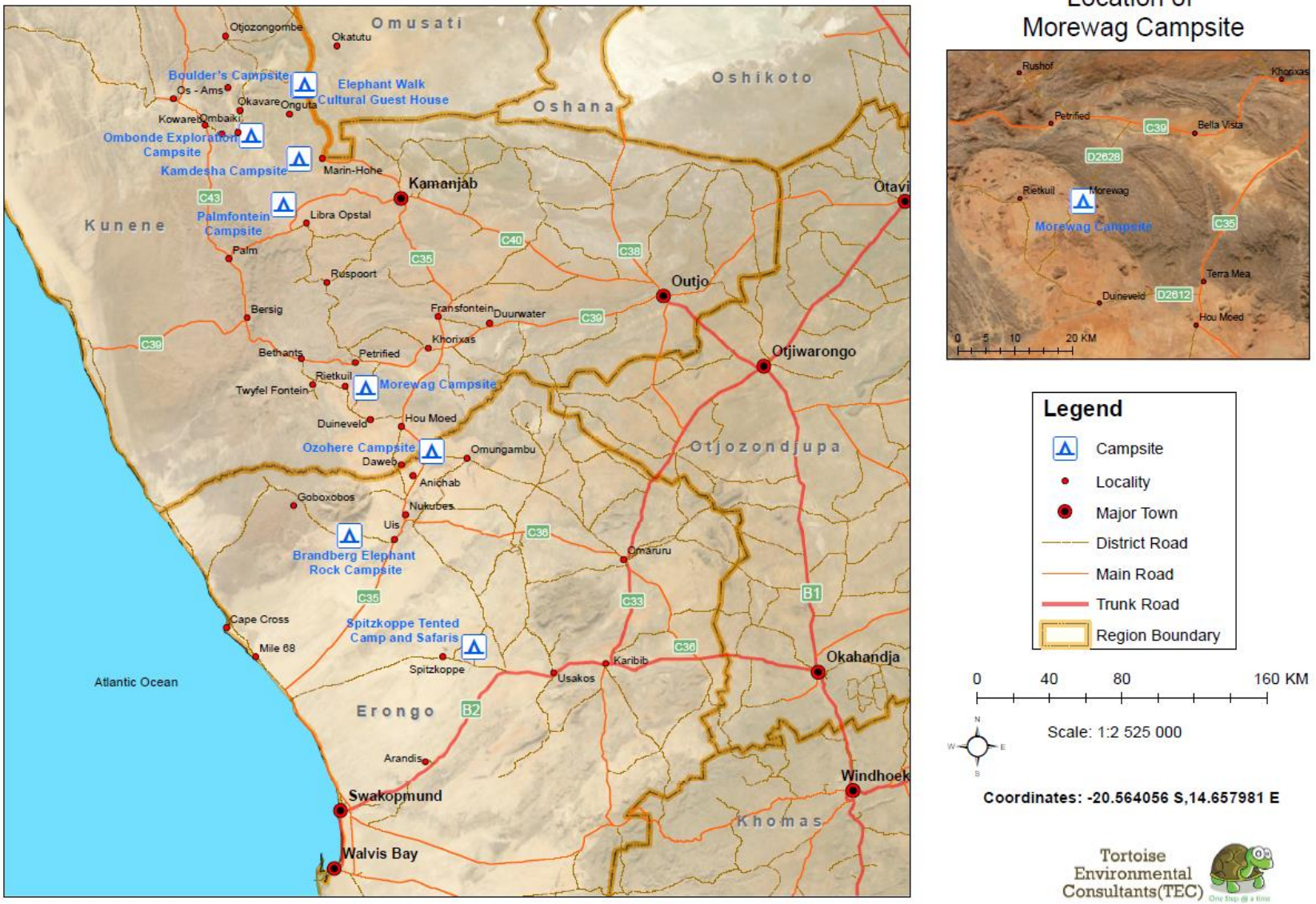

Figure 1: Locality map of Morewag Campsite and Tours

Figure 2.2: Layout – Morewag Campsite and Tours

Figure 2.3: One of the campsites with a fireplace and grilling station

Figure 2.4: The reception and craft stalls that are still under construction.

2.6 Existing Infrastructure / Current Status

The Morewag Campsite and Tours consists of the following facilities and infrastructures:

Accommodation facilities

- 5 campsites with private toilets, showers and grilling station
- 4 day camps

Other facilities

- Reception
- Restaurant and kitchen
- Swimming pool (to be constructed)
- Craft stalls
- Water tank
- Ablution facilities
- Parking area

3. COMPLIANCE AND LEGAL FRAMEWORK

The EMP is binding to the proponent, and all contractors / sub-contractors to be engaged in the development of the tourism. This implies that each and every entity that may have any kind of engagement or involved in / with the activities of the tourism development should comply with the EMP throughout the project lifespan. Non-compliance may have serious consequences e.g withdrawal of licenses by the authorities, which means project closure.

3.1 Compliance to the EMP

The EMP is binding to the proponent, and all contractors / sub-contractors. This implies that each and every entity that may have any kind of engagement or involved in / with the activities of the proposed lodge construction should comply with the EMP throughout the project lifespan. Non-compliance may have serious consequences e.g. License withdrawal.

3.2 Environmental Management Act (No.7 of 2007)

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."

3.3 EMP Requirements

Table 3:1: EMP Requirements as outlined in Section 8 of the EIA Regulations

Requirement
(j) a draft management plan, which includes – *(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;* *(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

(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.

3.4 Listed Activities

The proposed project triggers a number of Listed Activities as set out in the Environmental Management Act, 2007 (Act No. 7 of 2007) (herein referred to as the EMA) and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) (herein referred to as the EIA Regulations).

Listed Activities may not be undertaken without an Environmental Clearance Certificate (ECC), and hence an Environmental Impact Assessment (EIA) is required. The EIA entails the development of the EIA Scoping Report and Environmental Management Plan (EMP) which should be submitted to the MET as part of the application for the ECC.

Table 3-2: Listed Activities triggered by the proposed project.

Listed Activity	Activity Description	Relevance to the proposed project
Activity 4 Forestry Activities	4.1 The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorization in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law.	Vegetation clearance during the construction works. Unlikely to reach the thresholds set out in the Forest Act, however good practice to consider.
Activity 6 Tourism Development Activities	6.1 The construction of resorts, lodges, hotels or other tourism and hospitality facilities.	Construction of lodge bungalows and camp site
Activity 8 Water Resource Developments	8.1 The abstraction of ground or surface water for industrial or commercial purposes	Abstraction of surface water for the construction and operation of the proposed development

Table 3-3: Policies, Plans and Strategies

Policy / Plan	Summary	Applicability to the Proposed Project
5th National Development Plan (NDP) and Vision 2030	Namibia's overall long-term development ambitions are provided in the National Vision 2030, which is implemented through the 5 year national development plans (NDP's). NDP5 incorporates the principles and recommendations contained in the Stockholm Declaration on the Human Environment (1972) and associated Action Plan, as well as Agenda 21 which merged from the Convention on Biological Diversity, Rio De Janeiro (1992).	The proposed project is a development that forms part of the bigger picture of achieving economic progression, social transformation and environmental sustainability. Tourism is a key area for growth and thus the proposed project supports the goals for this sector's growth.
National Policy on Tourism for Namibia	Provides a framework for the mobilisation of tourism resources to realise long term national goals defined in Vision 2030 and the more specific targets of the NDP, namely, sustained economic growth, employment creation, reduced poverty and promotion of economic empowerment.	The proposed project aligns with the policy, in particular, the development provides competitive tourism amenities and services, creating a competitive business environment that is market driven.
National Tourism Investment Profile and Promotion Strategy 2016 - 2026	Sets out a strategy with the aim of creating a favourable and conducive regulatory environment for tourism investment with the objective of lowering transaction costs to allow the private sector to invest and grow the tourism sector through a superior tourism superstructure. Has been developed in conjunction with the National Sustainable Tourism Growth and Development Strategy	Namibia recognise development in various legislative and policy documents, and is committed to grow and make the tourism industry one of the preferred destinations in Africa. The Strategy has identified nine focus areas, which includes community-based tourism as one of the subsectors.

Table 3-4: National Statutes

National Statutes	Summary	Applicability to the Proposed Project
Environmental Management Act, 2007 (Act No. 7 of 2007) and associated regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the Minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application. The MET is responsible for the protection and management of Namibia's natural environment. The Department of Environmental Affairs under the MET is responsible for the administration for the EIA process.	This EIA report (and EMP) documents the findings of the EIA process undertaken for the proposed project, which will form part of the environmental clearance application. The EIA process and associated report have been undertaken in line with the requirements under the Act and associated regulations.
Water Act, 1956	This rather out-dated Act that remains in force, provides for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; and for the control of certain activities on or in water in certain areas. The Ministry of Agriculture, Water and Forestry (MAWF) Department of Water	Water pollution is an offence as per Section 23 of the Water Act. The Act stipulates obligations in Part 13 of general provisions relating to water pollution and prohibits the discharge of wastewater, effluent or waste without licence and sets forth specific requirements for such licence.

National Statutes	Summary	Applicability to the Proposed Project
	Affairs is responsible for administration of the Water Act.	The EMP sets out measures to avoid polluting the environment.
Water Resources Management Act 2004 (Act No. 24 of 2004)	Whilst approved and published in the Government Gazette, it is not legally enforced. Based on the National Water Policy and provided for the management, development, protection, conservation, and use of water resources; and it established the Water Advisory Council, the Water Regulatory Board and the Water Tribunal	Whilst not in operation, it is best practice to adhere to the conditions in these Act. The 2013 Act would repeal this Act, therefore conditions in the 2013 Act have been reviewed.
Water Resources Management Act, 2013 (No. 11 of 2013)	Whilst enacted it has not yet come into operation, and needs approval from the Government. This Act provides a framework for managing water resources based on the principles of integrated water resource management. It provides for the management, protection, development, use and conservation of water resource, and for the regulation and monitoring of water services and for incidental matters	Whilst not in operation, it is best practice to adhere to the conditions in these Act. The Act sets out obligations in order to avoid water pollution Section 44 stipulates the requirements for a licence to be held for the abstraction and use of water. Section 68 makes provisions for water pollution. Section 69 and 72 makes provisions for waste water treatment plants and stipulates the requirement for a licence to operate waste water treatment plant and discharge effluent. These have been incorporated into the EMP to minimise water pollution. Permits shall be obtained by the proponent.
Soil Conservation, 1969 (Act 76 of 1969) and the Soil Conservation	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and	Through vegetation removal there may be the risk of affecting soil quality. Measures shall be taken to

National Statutes	Summary	Applicability to the Proposed Project
Amendment Act (Act 38 of 1971)	manner of use of the soil and vegetation.	avoid this which are set out in the EMP.
Forest Act 12 of 2001 Forest Act Regulations 2015	To provide for the protection of the environment and the control and management of forest. The Act and Regulations have the following stipulations that may be relevant to the proposed project: - Approval from the Director may be required for the clearance of vegetation on more than 15 hectares (Section 23, subsection 1 (b)). - Tree species and any vegetation within 100m from a watercourse may not be removed without a permit (Section 22, subsection 1 (b)) - Provision for the protection of various plant species. This includes the proclamation of protected species of plants and the conditions under which these plants can be disturbed, conserved, or cultivated.	There shall be some vegetation removal as part of the proposed project. The total area of the development site is approximately 19 hectares and it is unlikely that an area of more than 15 hectares shall be cleared. If vegetation within 100m of the river needs to be cleared, a permit shall be obtained prior to clearance. The proponent shall undertake all activities in line with the conditions stipulated in the Permit and a valid permit shall be obtained throughout vegetation clearance activities. It is unlikely that a permit shall be required.
National Heritage Act, No. 27 of 2004.	The Act provides provision of the protection and conservation of places and objects with heritage significance.	There is potential for heritage objects to be found on the development site, therefore the stipulations in the Act have been taken into consideration and are incorporated into the EMP.

3.5 EMP 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 EMP 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.

3.6 Disciplinary Action

The EMP is a legally binding document and non-compliance with the EMP shall result in disciplinary action being taken against the perpetrator/s. Such action may take the form of (but is not limited to):

- ✓ Fines / penalties,
- ✓ Legal action,
- ✓ Withdrawal of license/s
- ✓ Suspension of work.

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

3.7 Non-Compliance

The Proponent and Site Manager shall be deemed to have **not** complied with the EMP if:

- There is evidence of contravention of the EMP and associated indicators.
- The Proponent and SM have failed to comply with corrective or other instructions issued by the ECO or qualified authority.
- The Proponent and SM fail to respond to complaints from the public.

4. 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 EMP.

4.1 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.

4.1.1 The Environnemental Compliance Officer (ECO):

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

The ECO shall have adequate environmental knowledge to understand and interpret the EMP 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 EMP.
- 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.

4.1.2 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 EMP at all times.
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the EMP, 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 EMP; 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 EMP requirements are assigned to specific people / positions with the capacity and experience required for implementation.

4.1.3 The Site Manager:

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

- Ensure that each team recruited to work at the sites, adheres to the EMP;
- Ensure that a **copy of the EMP 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 EMP;

- 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).

4.2 EMP 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 EMP 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

5. PROJECT DESIGN AND PLANNING

The EMP provides mitigation measures in accordance with the scope of work during the construction and operations of the proposed tourism development. The recommended mitigation measures should be considered at all stages / phases of the development process as follows:

- Design;
- Planning;
- Site preparation, and
- Construction and Operational Phase

5.1 Design phase

The design phase entails the conceptual framework (what, where, how big, etc) and architectural design (sketch and projected image), and machinery required for the proposed development.

Already at this stage, it is important that, already at this stage, the Architectural and Engineering design, should take environmental aspects and standards into consideration (e.g aesthetic value, habitat alteration, , visual / image upon completion, waste management – both during the construction and operational phases, etc).

5.2 Planning phase

During the planning phase, it is imperative that the design is re-evaluated and if any environmental concern is detected at this stage, corrective measures should be applied. In-addition, a contingency plan should be in place, in case, unforeseen environmental concerns are detected later.

5.3 Site Preparation

To provide a systematic guide for the development of mitigations measures, the proposed development site preparation can be broken down / sub-divided into different development stages / phases as presented in the table 5.1 below.

Table 6-5: Site Preparation Phases requiring mitigation measures

Phase	Description
Phase 1	Access roads and routes
Phase 2	Site Clearing and deployment of machinery
Phase 3	Decommissioning – Removal of all unwanted material after the Site Manager of houses, clean-up, landscaping, and rehabilitation

5.4 Construction and Operational Phase

For ease of reference and monitoring during operation, the EMP is sub-divided into different themes and for each theme, the following aspects are highlighted:

- ✓ Potential Impact,
- ✓ Environmental Management Objective
- ✓ Mitigation Measures / Management Action/s required
- ✓ Indicator/s for Monitoring and Compliance
- ✓ Party responsible for implementation

6. POTENTIAL IMPACTS AND MITIGATION MEASURES

6.1 Impact Themes and Recommended Mitigation Measures

The EMP has been categorised into different themes, which serve as a quick guide to the recommended EMP remedial actions during the construction and Operation stages (Table 6.1 to 6.7).

EMP Themes	Specific Aspects
A – Staff induction	Induction
	Site Demarcation
	Communication
B – Health and Safety	General safety at work place
	Road Safety
	Ablution facilities
	Dust and Noise
C – Pollution and Waste Management	Wastewater (Ablution facilities)
	Solid Waste Disposal
	Oil Spills
	Vehicle emissions (smoke)
D – Socio economic	Employment opportunities
	Alcohol and Drug use
	Working hours
	HIV / AIDS
	Safety and Security
E – Cultural Heritage	Heritage resources / artefacts
F – Rehabilitation	Clean-up and maintain natural / original appeal

SECTION A: STAFF INDUCTION

Table 3-6: Mitigation measures pertaining to staff Recruitment and Induction

Potential Sources of Impacts:

- ✓ Employees working without employment contracts (recipe for labour disputes)
- ✓ Lack of adequate induction to inform the workers about the Do's and Don'ts
- ✓ Poor Communication
- ✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities / actions

Impact	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Recruitment	To ensure that all workers have employment contracts (Labour Act No. 11 of 2007)	Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later on	Copy of staff contracts	Proponent / Site Manager
Staff Induction	To ensure that all staff / employees are conversant with the requirements of the EMP	Induction for all workers on the provisions of the EMP before work commencement, covering but not limited to: Safety, Health and Environmental (SHE) measures, emergency response, reporting of incidents, HIV/AIDS awareness, alcohol and substance abuse, etc Staff operating equipment (such as trucks, loaders, jack hammers, compressors etc.) shall	Induction Minutes and Attendance Register, Signed by each and every staff member Staff members appointed at a later stage should also undergo induction	Site Manager

		be adequately trained and sensitised against potential hazards Conduct Quarterly induction reviews and reflect on workers conduct	 Quarterly minutes	
	Availability of the EMP on site for ease of reference	Ensure that a copy of the EMP is kept on site and accessible by team leaders	Availability of EMP on site and accessibility by team leaders	Site Manager
	Punitive measures for staff, to ensure compliance	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.	Number of fines issued daily / per month	Site Manager
Communication	Ensure effective communication throughout the project lifespan	Develop a communication strategy (Chanel & medium of communication) All correspondence should be written and signed off by witnesses (e.g Site Manager / team leaders) The contact numbers for the Site Manager and Team Leaders must be available onsite (displayed) in case of emergencies.	Communication Strategy Letters, e-mail, Notices, Minutes List of contact numbers available on site	Site Manager

SECTION B: OCCUPATIONAL HEALTH AND SAFETY

Table 3-7: Mitigation measures pertaining to Health and Safety

Potential Sources of Impacts:

- ✓ 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

Impact	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
General Occupational Health and Safety of the employees (injuries)	To ensure safe working conditions and adhere to the Health and Safety Regulations, Government Notice 156/1997 (GG 1617)	Develop a Health and safety Plan Identify potential hazards to minimize potential health and safety risks Provide adequate and appropriate personal protective equipment for all workers Training on relevant aspects of occupational health and safety	Health and Safety Plan Hazard risk report and Safe work condition audit Adequate protective gear for all staff (issue register) Training schedule, attendance register, report, pictures, etc	Site Manager

Accidents and incidents	To ensure safe working conditions	Document and report occupational injuries, illness and fatalities, including near misses. Investigate causes and take appropriate action to eliminate risks where possible Provide adequate access to first aid and medical assistance in cases of work-related accidents or injuries	Accidents and incidents register (including near misses) Root causes analysis report Incident review (cause and elimination of hazard) First aid kit availability and adequacy audit report	Site Manager
Road Safety	To prevent traffic hazards / inconveniences from earth moving machinery during and construction period	Signage for vehicles and earth moving machinery All trucks transporting materials (e.g sand / gravel) should be covered with suitable material (e.g net, tarpaulin, canvas etc)	Public Complaints / Incident report/s	Site Manager
Ablution Facilities	To reduce health risks and environmental pollution and ensure healthy working environment with appropriate and user-friendly ablution facilities	Ensure adequate, hygienic (clean) and user-friendly ablution facilities for all staff. Mobile chemical toilets are recommended during construction Waste water should be discharged in accordance with the effluent discharge regulations. No faecal waste should be discharged on site	Inspect ablution facilities regularly (daily) Availability of toilets, cleanliness and hygienic ablution facilities	Site Manager

		Appoint a cleaner or rotate cleaning responsibilities among workers. If necessary, designate Male and Female toilets Ablution facilities must be located at least 100 m away from streams or freshwater systems and regularly serviced	Incidents or complaints of waste discharge into the environment	
Dust and Noise	To mitigate dust and noise impacts to both employees and the public	Adopt applicable dust suppression measures to mitigate dust impacts, Provide dust masks and ear muffs to all employees operating in a dusty or noisy environment	Dust and Noise Incident Reports Issue register	Site Manager
Fire Risk / Hazard	To mitigate fire risk	Avail sufficient fire extinguishers and train staff on how to use them Demonstrate the use of fire extinguishers and fire hydrants,	Availability of fire extinguishers and service record Training report, attendance register, pictures, etc	Site Manager

SECTION C: POLLUTION AND WASTE MANAGEMENT

Table 3-8: Mitigation measures pertaining to Waste Management

Potential Sources of Impacts:

- ✓ 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)

Impact	Objective	Mitigation Measures	Indicators for Monitoring and Compliance	Responsible Party
Waste Water	To avoid effluent discharge into the environment	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)	No leakage of sewer pipes	Site Manager or dedicated Plumber
Solid Waste	To prevent pollution and maintain a clean environment	Classify waste into different categories e.g. Material waste (wood, steel, corrugated iron etc), Building rubble (concrete), Garden Waste (tree stumps, branches etc), and Domestic Waste (Litter – cans, plastics, tissues etc) Ensure appropriate waste collection and removal from the site and dispose at appropriate municipal waste disposal sites	Scattered waste, Littering and any other unsightly waste at the site (eyesore)	Site Manager / dedicated Waste Disposal Officer

Vehicle emissions	Reduce greenhouse gas (GHG) emissions from poorly maintained or malfunctioning equipment (vehicles / machinery	All vehicles and equipment shall be kept in good working order and serviced regularly (in accordance with the servicing frequency of the specific machinery), in order to prevent emission of poisonous smoke etc	Vehicle servicing records Reports of smoke emissions from machinery	Site Manager
Oil Spills	Ensure waste oil is managed appropriately and pollution is prevented at all costs	Provide concrete bunding for fuel storage and transfer on site. The bunding should be bigger than the fuel storage tank/s to allow a bit of working space around tank/s (e.g 20% bigger than the tank/s) 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)	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: SOCIO-ECONOMIC

Table 3-9: Mitigation measures pertaining to Socio Economic impacts

Sources of impacts:

- ✓ Unfair labour practices and unwillingness to recruit locals
- ✓ Lack of awareness on HIV-AIDS
- ✓ Drug and alcohol abuse

Impact Description	Objective	Mitigation Measures / Management Actions	Indicators for Monitoring and Compliance	Responsible Party
Employment opportunities for Locals	Promote benefits to the local community Promote benefits to local communities	Recruit locals for unskilled labour Where possible, procure materials from local suppliers	Employee structure and proportion of local employment	Site Manager
Alcohol abuse and Drug use	Prevent alcohol and drug use at the tourism development site	Ban and warn the employees against alcohol abuse and consumption of prohibited substances e.g drugs at the site Provide awareness on the dangers and health impacts of alcohol abuse and drugs	Drunk / Misbehaving employees Monitor presence of prohibited substances	Site Manager
Excessive working hours	Adhere to the Labour Act No. 11 of 2007	Adhere to prescribed working hours as per the Namibian Labour laws and regulations. Provision for overtime or	Verification of working hours against the labour Act	Site Manager

		compensatory time off for long hours worked		
HIV / AIDS	Provide HIV / AIDS awareness to employees	Provide HIV / AIDS awareness at induction Avail Condoms (e.g in toilets)	Availability of condoms at and construction site	Site Manager
Security	Orientation of workers about security for both equipment and themselves	Orientate workers about security for equipment and themselves & provide contact numbers for Police and other emergency services e.g. Ambulance	Proof of security orientation and emergency contact numbers	Site Manager

SECTION F: CULTURAL HERITAGE

Table 3-10: Mitigation measures pertaining to Cultural Heritage impacts

Sources of impacts: ✓ Disregard of Cultural Heritage and artefacts				
Impact Description	**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	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)	Sighting report/s of heritage resources / artefacts	Site Manager
		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		

7. REHABILITATION

1.1 Importance of Rehabilitation

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

However, such developmental activities should be conducted in a thoughtful and forward-looking manner. In other words, developmental activities, such as tourism development should consider the future land use after such activity has come to an end. 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.

1.2 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).

1.3 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.

1.4 Conclusion

Construction activities should be undertaken in a responsible and environmental 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 in order to safeguard the environment

SECTION G: REHABILITATION

Table 3-11: Potential impacts and Mitigation measures pertaining to Rehabilitation

Sources of impacts:

- ✓ 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

8. CONCLUSION

The EMP recommends measures to be implemented by the proponent, the contractor and sub-contractors in order to manage the tourism development activities on behalf of Namibia Exclusive Safaris (the Proponent), in an environmental friendly manner, and in accordance with the provisions of the Environmental Management Act and EIA regulations.

In-addition, the aim of the EMP 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 EMP is punishable and specific responsibilities has been assigned to role players in-order to ensure that the EMP is implemented. The key role-players (Proponent, Contractor, Site Manager) as defined under section 4 should:

- ***Read*** the EMP (particularly the Site Manager) and ensure that they are fully conversant with provisions of the EMP,
- 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 EMP audits) throughout the development phase, in-order to ensure compliance in-accordance with the mitigation measures prescribed in the EMP.