

**ETOSHA VILLAGE LODGE AND CAMPSITE ON FARM MONTE BELLO,
OUTJO DISTRICT**

ENVIRONMENTAL MANAGEMENT PLAN




Prepared by:



Prepared for:



August 2025

Project:	ETOSHA VILLAGE LODGE AND CAMPSITE ON FARM MONTE BELLO, OUTJO DISTRICT: ENVIRONMENTAL MANAGEMENT PLAN	
Report:	Final	
Version/Date:	August 2025	
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Cite this document as:	Faul A, Stauss J; 2025 August; Etosha Village Lodge and Campsite on Farm Monte Bello, Outjo District: Environmental Management Plan	
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Report Approval	 André Faul Conservation Ecologist	

I Karl Heinz Costhuizen acting as the Proponent's representative (Talení Africa Tourism Holdings (Pty) Ltd), hereby confirm that we approve the Environmental Management Plan as presented in this document. All material information in the possession of the proponent that reasonably has or may have the potential of influencing the Environmental Management Plan was provided to the consultant.

Signed at Sossusvlei Lodge on the 21 day of August 2025.

Talení Africa Tourism Holdings (Pty) Ltd CY/1988/059
Company Registration

TABLE OF CONTENTS

1	BACKGROUND AND INTRODUCTION	1
2	SCOPE	2
3	ESTABLISHMENT OPERATIONS AND RELATED ACTIVITIES.....	2
3.1	LODGE AND CAMPSITE	2
3.2	RESTAURANT, BAR, SWIMMING POOL AND SHOP.....	2
3.3	ADMINISTRATIVE, MAINTENANCE AND SUPPORT INFRASTRUCTURE	2
3.4	SERVICES SUPPLY	2
3.5	PROPOSED AIRSTRIP.....	2
4	ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS	3
5	ENVIRONMENTAL MANAGEMENT PLAN.....	7
5.1	PLANNING	7
5.1.1	<i>Employment</i>	9
5.1.2	<i>Skills and Development</i>	10
5.1.3	<i>Revenue Generation</i>	11
5.1.4	<i>Demographic Profile and Community Health</i>	12
5.1.5	<i>Traffic</i>	13
5.1.6	<i>Health</i>	14
5.1.7	<i>Safety and Security</i>	16
5.1.8	<i>Fire</i>	17
5.1.9	<i>Noise</i>	18
5.1.10	<i>Waste production</i>	19
5.1.11	<i>Ecosystem and Biodiversity Impact</i>	20
5.1.12	<i>Groundwater, Surface Water and Soil Contamination</i>	21
5.1.13	<i>Visual Impact</i>	22
5.1.14	<i>Impacts on Utilities and Infrastructure</i>	23
5.1.15	<i>Cumulative Impact</i>	24
5.2	DECOMMISSIONING AND REHABILITATION	25
5.3	ENVIRONMENTAL MANAGEMENT SYSTEM.....	25
6	CONCLUSION.....	25

LIST OF FIGURES

FIGURE 1-1	PROJECT LOCATION	1
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LIST OF TABLES

TABLE 4-1	NAMIBIAN LAW APPLICABLE TO THE ESTABLISHMENT	3
TABLE 4-2	RELEVANT MULTILATERAL ENVIRONMENTAL AGREEMENTS FOR NAMIBIA AND THE ESTABLISHMENT	5
TABLE 4-3	STANDARDS OR CODES OF PRACTISE	6

1 BACKGROUND AND INTRODUCTION

Taleni Africa Tourism Holdings (Pty) Ltd (the Proponent) requested Geo Pollution Technologies (Pty) Ltd to renew the existing Environmental Clearance Certificate (ECC-0089) for the operations of Etosha Village Lodge and Campsite on Farm Monte Bello (Farm No FMA/00456), along Main Road C38, in the Outjo District (Figure 1-1). Etosha Village has been in operation for many years and is an ideal stopover to, or base from which to, explore the Etosha National Park. Facilities and activities offered to tourists are rooms, campsites, restaurant and bar, and a swimming pool, day excursions to nearby Etosha National Park, guided walks, and stargazing. The main operational activities at Etosha Village include:

- ◆ Daily cleaning of rooms and washing of linen;
- ◆ Receipt and storage of food and beverage;
- ◆ Preparation of food and related kitchen activities;
- ◆ Day to day maintenance activities and tending to the gardens;
- ◆ Running of the tourist shop, reception and office administration.

A risk assessment was undertaken in 2019 (Faul *et al.* 2019) to determine in the potential impact of the operations, maintenance / construction, and possible decommissioning phases of the establishment on the environment. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

To renew the ECC, the environmental management plan (EMP) was updated and will be submitted to the Ministry of Environment, Forestry and Tourism (MEFT) for approval. The ECC renewal is in compliance with Namibia’s Environmental Management Act (Act No 7 of 2007) (EMA).

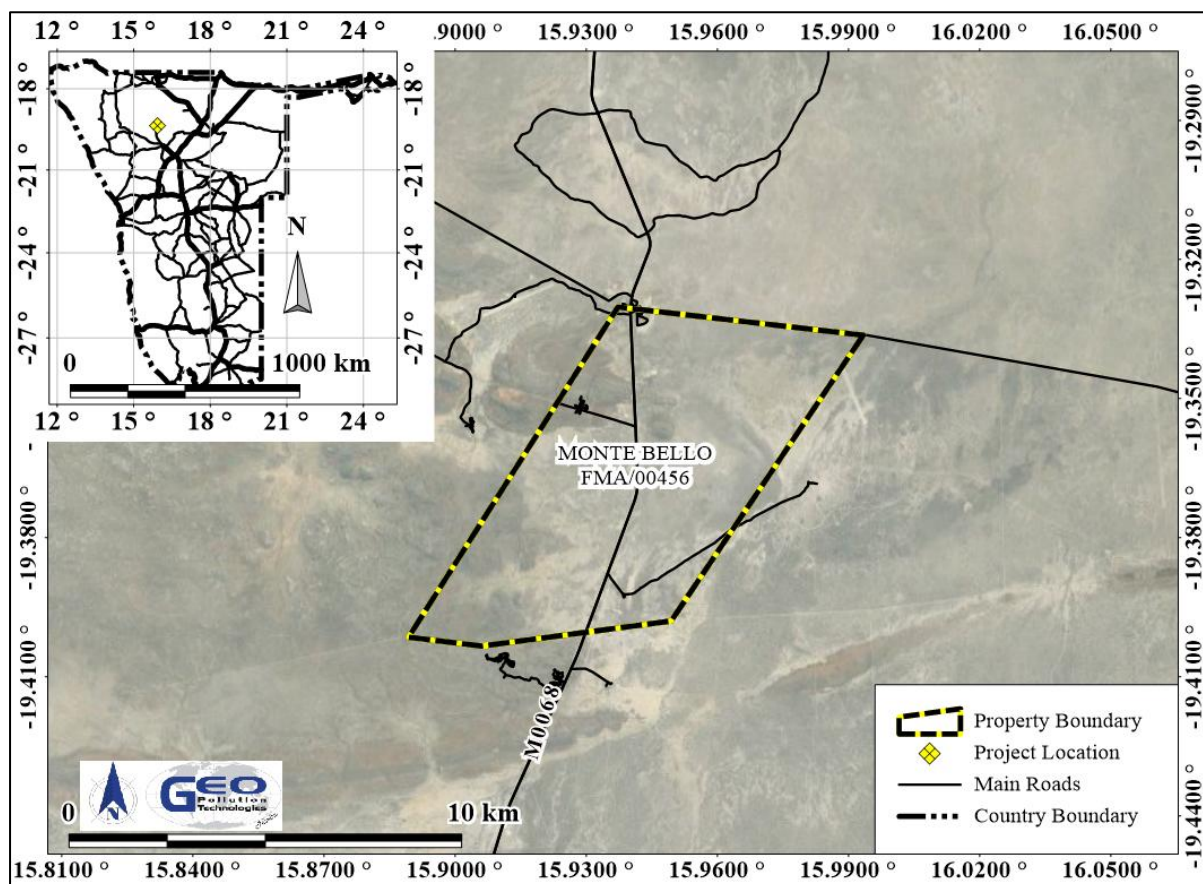


Figure 1-1 Project Location

2 SCOPE

The scope of this EMP, in compliance with the requirements of EMA, is to:

- ◆ Provide a brief overview of all components and related operations of the lodge and camp.
- ◆ Summarise the legal and regulatory framework within which the lodge and camp operates.
- ◆ Identify potential impacts of the project on the environment.
- ◆ Identify a range of management actions which could mitigate the additional identified adverse impacts to acceptable levels.
- ◆ To provide sufficient information to the MEFT to make informed decisions regarding the renewal of the ECC.

3 ESTABLISHMENT OPERATIONS AND RELATED ACTIVITIES

Etosha Village is an existing lodge and campsite that was constructed in 2008. The following section provides a brief description of the infrastructure, services supply, operations and proposed construction activities of Etosha Village.

3.1 LODGE AND CAMPSITE

Etosha Village offers 45 air-conditioned double rooms with en-suite bathrooms, operating on a dinner, bed, and breakfast basis. Food is prepared in the central lodge kitchen and served at the restaurant. Rooms have coffee stations only.

There are six campsites—two for large groups (up to 25 tents) and four for small groups or families. Each site includes private ablution facilities and a barbeque area. Campers may cook on-site or dine at the restaurant.

3.2 RESTAURANT, BAR, SWIMMING POOL AND SHOP

The restaurant offers breakfast, lunch, and dinner across three seating areas, with food prepared onsite using third-party suppliers. A bar that serves beverages, and a large pool with two children's pools. A small shop sells curios, books, clothing, snacks, and cold drinks.

3.3 ADMINISTRATIVE, MAINTENANCE AND SUPPORT INFRASTRUCTURE

Reception and office space accommodate guest check-in and staff functions. Support infrastructure includes workshops, parking, and a fuel installation with two 2.2 m³ diesel tanks in a bund wall.

Managers stay onsite, while general staff are housed at a nearby staff village (a repurposed construction camp), which includes accommodation, ablutions, kitchen, gym, entertainment area, laundry, and computer room. Staff are shuttled to and from the lodge at shift changes.

A firefighting plan is in place, supported by mobile firefighting units, a dedicated on-site firefighter, blowers, and handheld firefighting equipment and personal protective equipment (PPE).

3.4 SERVICES SUPPLY

Electricity is supplied by CENORED while solar geysers provide hot water to rooms and campsites. Water is supplied from a nearby borehole. Waste is stored on-site and transported weekly to Windhoek for disposal.

Lodge and campsite sewage is treated in a biological wastewater treatment plant, sterilized, and reused for garden irrigation (clearly marked as non-potable). The plant is fenced, signed, and maintained by a contractor. The staff village uses an old sewage pond system.

3.5 PROPOSED AIRSTRIP

Etosha Village has future plans to construct an airstrip of approximately one kilometre in length to allow mainly for charter planes to land and take-off. Preparation of the airstrip will require land clearing, levelling and compaction. The NCAA (Namibian Civil Aviation Authority) will

be consulted on the design of the airstrip. The airstrip will be designed and operated according to the regulations provided and will be constructed to ensure all safety and environmental risks are minimised. There are no high structures such as communications towers or buildings in close proximity to the proposed location of the airstrip.

4 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided in Table 4-1 to Table 4-3 govern the environmental assessment process in Namibia and/or are relevant to the establishment.

Table 4-1 Namibian law applicable to the establishment

Law	Key Aspects
The Namibian Constitution	<ul style="list-style-type: none"> ◆ Promotes the welfare of people ◆ Incorporates a high level of environmental protection ◆ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	<ul style="list-style-type: none"> ◆ Defines the environment ◆ Promotes sustainable management of the environment and the use of natural resources ◆ Provides a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Act Regulations Act No. 7 of 2007, Government Notice No. 28-30 of 2012	<ul style="list-style-type: none"> ◆ Commencement of the Environmental Management Act ◆ List activities that requires an environmental clearance certificate ◆ Provides Environmental Impact Assessment Regulations
Namibia Tourism Board Act Act no. 21 of 2000, Government Notice 261 of 200, 2000	<ul style="list-style-type: none"> ◆ Provides for the registration and grading of accommodation establishments ◆ Provides for the declaration of any sector of the tourism industry as a regulated sector and for the registration of businesses falling within a regulated sector ◆ Provides regulations and minimum requirements pertaining to <ul style="list-style-type: none"> ○ Levies payable ○ Registrations of regulated businesses ○ Registrations of accommodation establishments
Accommodation Establishments and Tourism Ordinance 20 of 1973	<ul style="list-style-type: none"> ◆ Consolidate and amend the laws relating to accommodation establishments and tourism and to provide for the establishment of tourist recreation areas and incidental matters ◆ Provides for regulations of tourism establishments ◆ Numerous amendments and repeals

Law	Key Aspects
Petroleum Products and Energy Act Act No. 13 of 1990, Government Notice No. 45 of 1990	<ul style="list-style-type: none"> ◆ Regulates petroleum industry ◆ Makes provision for impact assessment ◆ Petroleum Products Regulations (Government Notice No. 155 of 2000) <ul style="list-style-type: none"> ○ Prescribes South African National Standards (SANS) or equivalents for construction, operation and decommissioning of petroleum facilities (refer to Government Notice No. 21 of 2002)
Water Resources Management Act Act No. 11 of 2013, Government Notice No. 269 of 2023	<ul style="list-style-type: none"> ◆ Provides for management, protection, development, use and conservation of water resources ◆ Prevention of water pollution and assignment of liability ◆ Permits and licencing for borehole drilling and water abstraction
Forest Act (Act 12 of 2001, Government Notice No. 248 of 2001)	<ul style="list-style-type: none"> ◆ Makes provision for the protection of the environment and the control and management of forest fires ◆ Provides the licencing and permit conditions for the removal of woody and other vegetation as well as the disturbance and removal of soil from forested areas.
Forest Regulations: Forest Act, 2001 Government Notice No. 170 of 2015	<ul style="list-style-type: none"> ◆ Declares protected trees or plants ◆ Issuing of permits to remove protected tree and plant species.
Civil Aviation Act Act No. 6 of 2016, Government Notice 137 of 2016	<ul style="list-style-type: none"> ◆ Consolidates the laws relating to civil aviation and civil aviation offences ◆ Provides for a civil aviation regulatory and control framework for maintaining, enhancing and promoting the safety and security of civil aviation for ensuring the implementation of international aviation agreements ◆ Provides for Namibia Civil Aviation Regulations And Technical Standards
Aerodrome Ordinance Ordinance 12 of 1963	<ul style="list-style-type: none"> ◆ Provide for the establishment, management and maintenance of aerodromes
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	<ul style="list-style-type: none"> ◆ Defines the powers, duties and functions of local authority councils ◆ Regulates discharges into sewers
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	<ul style="list-style-type: none"> ◆ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters ◆ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation.
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	<ul style="list-style-type: none"> ◆ Provides for Labour Law and the protection and safety of employees ◆ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)

Law	Key Aspects
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	<ul style="list-style-type: none"> ◆ Governs the control of noxious or offensive gases ◆ Prohibits scheduled process without a registration certificate in a controlled area ◆ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	<ul style="list-style-type: none"> ◆ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export ◆ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Pollution Control and Waste Management Bill (draft document)	<ul style="list-style-type: none"> ◆ Not in force yet ◆ Provides for prevention and control of pollution and waste ◆ Provides for procedures to be followed for licence applications

Table 4-2 Relevant multilateral environmental agreements for Namibia and the establishment

Agreement	Key Aspects
Charter of the Regional Tourism Organisation of Southern Africa (RETOSA), 1997	<ul style="list-style-type: none"> ◆ Development of tourism through effective marketing of the Region in collaboration with the public and private sector. ◆ To facilitate, encourage and assist in the development of legal and ethical tourism throughout the Southern African Region taking due consideration of the overall development of the people, the Region and the Region's natural and cultural resources.
Stockholm Declaration on the Human Environment, Stockholm 1972.	<ul style="list-style-type: none"> ◆ Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.
Protocol on the Development of Tourism in SADC, 1998	<ul style="list-style-type: none"> ◆ The Protocol sets out SADC's objective to build upon the region's potential as a tourist destination.
Statutes of the World Tourism Organization, 1970	<ul style="list-style-type: none"> ◆ Promotion and development of tourism with a view to contributing to economic development, international understanding, peace, prosperity, and universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language or religion.
United Nations Framework Convention on Climate Change (UNFCCC)	<ul style="list-style-type: none"> ◆ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention.
Convention on Biological Diversity, Rio de Janeiro, 1992	<ul style="list-style-type: none"> ◆ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity.

Table 4-3 Standards or codes of practise

Standard or Code	Key Aspects
South African National Standards (SANS)	<ul style="list-style-type: none"> ◆ The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and demolition of petroleum facilities. ◆ SANS 10089-3:2010 is specifically aimed at storage and distribution of petroleum products at fuel retail facilities and consumer installations. <ul style="list-style-type: none"> ○ Provide requirements for spill control infrastructure

Listed activities which require an ECC application (Government Regulation No 29 of 2012) related to this project include the following:

Section 2 of Government Notice No. 29 of 2012: Waste Management, Treatment, Handling and Disposal Activities

- ◆ 2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste. The lodge and campsite has a trickling plant for wastewater treatment.

Section 6 of Government Notice No. 29 of 2012: Tourism Development Activities

- ◆ 6. The construction of resorts, lodges, hotels or other tourism and hospitality facilities. The lodge and camp site was constructed and currently in operation and maintained accordingly.

Section 8 of Government Notice No. 29 of 2012: Water Resource Developments

- ◆ 8.1. The abstraction of ground or surface water for industrial or commercial purposes: (Water is abstracted from borehole for current commercial (tourism) operations).
- ◆ 8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems: (The Proponent has an existing trickling plant).

Section 9 of Government Notice No. 29 of 2012: Hazardous Substance Treatment, Handling and Storage

- ◆ 9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974. (Fuel is stored on site for daily operations).
- ◆ 9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste. (The Proponent stores more than 2,500 l in aboveground storage tanks).
- ◆ 9.5 Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin. (Fuel is stored on site, in aboveground storage tanks, for daily operations)

Section 10: Infrastructure

- ◆ 10.1 (d) The construction of airports and airfields. (Planned construction of an airfield).

5 ENVIRONMENTAL MANAGEMENT PLAN

The EMP provides management options to ensure impacts of the establishment are minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The environmental management measures are provided in descriptions below. These management measures should be adhered to during the various phases of the operation and maintenance/ construction of the establishment. This section of the report can act as a stand-alone document. All personnel taking part in the operations of the establishment should be made aware of the contents in this section, so as to plan the operations accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- ◆ to include all components of construction activities and operations of the establishment;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the establishment;
- ◆ to monitor and audit the performance of operational personnel in applying such controls; and
- ◆ to ensure that appropriate environmental training is provided to responsible operational personnel.

Various potential and definite impacts will emanate from the operations, maintenance / construction and decommissioning phases. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the operational phase are expected to mostly be of medium to low significance and can mostly be mitigated to have a low significance. The extent of impacts are mostly site specific to local and are not of a permanent nature. Due to the nature of the surrounding areas, cumulative impacts are possible and include groundwater contamination and traffic impacts.

5.1 PLANNING

During the phases of planning for the operations, maintenance / construction and decommissioning of the establishment, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to, and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- ◆ Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the operations, maintenance / construction and decommissioning activities of the project remains valid. These include registration with the Tourism Board of Namibia (NTB), the petroleum products licence, a water abstraction license and an effluent disposal license.
- ◆ Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, and employees on site.
- ◆ Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- ◆ Have the following on site, where reasonable, to deal with all potential emergencies:
 - Emergency response plans
 - Health safety and environment (HSE) manuals
 - Procedures, equipment and materials required for emergencies
 - Adequate protection and indemnity insurance cover for incidents

- ◆ If one has not already been established, establish and maintain a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.
- ◆ Establish and / or maintain a reporting system to report on aspects of operations, maintenance / construction, and decommissioning as outlined in the EMP.
- ◆ Prepare EMP compliance monitoring reports for submission to MEFT as per the conditions of the ECC. Keep monitoring reports on file and available for inspection by officials from MEFT.
- ◆ Appoint a specialist environmental consultant to update the EMP and apply for renewal of the environmental clearance certificate prior to expiry.

5.1.1 Employment

A relatively large workforce is required for the day to day operations of the establishment. Employees with various skill levels are required. Skilled employees are for example required to run the kitchen and restaurant while less skilled labourers are employed to tend to gardens. The Proponent, through all their tourism establishments, contributes significantly to the reduction in unemployment in Namibia.

Desired Outcome: Provision of employment to local Namibians and in line with the relevant laws of Namibia.

Actions

Enhancement:

- ◆ The Proponent must employ local Namibians where possible.
- ◆ If the skills exist locally, employees must first be sourced from the region and then nationally.
- ◆ Deviations from this practice must be justified.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on employee records.

5.1.2 Skills and Development

Training is periodically provided to a portion of the workforce to enable them to conduct certain tasks according to the required standards. Skills are periodically transferred to an unskilled workforce for general tasks. Development of people and technology are key to economic development. Etosha Village plays a role in promoting and sustaining the Namibian tourism industry.

Desired Outcome: To see an increase in skills of local Namibians, as well as development and advancements in the tourism and hospitality industry.

Actions

Enhancement:

- ◆ Skills development and improvement programs to be made available as identified during performance assessments.
- ◆ Employees to be informed about parameters and requirements for references upon employment.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Record should be kept of training provided.
- ◆ Ensure that all training is certified or managerial references provided (proof provided to the employees) inclusive of training attendance, completion and implementation.

5.1.3 Revenue Generation

The change in land use, from agriculture to tourism, lead to changes in the way revenue is generated and paid to the national treasury. Salaries and wages are paid to a significantly larger workforce than what would have been the case if the farm was still operated for livestock farming only. This increases the spending power of the local community leading to support and a flow of revenue for various businesses in the region and Namibia. Increased travel within Namibia and to this region is expected to increase the demand for accommodation and related services. More revenue is thus also expected to be generated for the National treasury.

Desired Outcome: Contribution to national treasury and support for local businesses.

Actions

Enhancement:

- ◆ Payment of salaries and wages, payment of taxes and levies, etc., according to Namibian legislation.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Good standing with the Namibian Revenue Agency.

5.1.4 Demographic Profile and Community Health

The establishment has a relatively large workforce and at times makes use of various contractors. The scale of the Proponent's establishment is limited and it has not created a large change in the demographic profile of the local community. However, the cumulative effect of the various lodges and accommodation establishments in the area has changed the local demography. The local community may be exposed to factors such as communicable disease like HIV/AIDS as well as alcoholism/drug abuse. These are typically aggravated during the presence of possible foreign construction teams and contractors. An increase in foreign people in the area may potentially increase the risk of criminal and socially/culturally deviant behaviour.

Desired Outcome: To prevent the occurrence of social ills and prevent the spread of diseases such as HIV/AIDS.

Actions:

Prevention:

- ◆ Employ local people from the Region, deviations from this practice should be justified appropriately.
- ◆ Adhere to all local authority by-laws relating to environmental health at the staff village.
- ◆ Rules regarding visitors to the staff village to be part of employment contracts.
- ◆ Implement periodic training or educational sessions for employees on various topics of social behaviour, sexually transmitted diseases (STIs), and general upliftment of employees' social status (e.g. Making sound financial choices).

Mitigation:

- ◆ Disciplinary action in line with employee contracts and the labour law for transgressions such as alcohol and or drug abuse.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on educational programmes and training conducted.
- ◆ Bi-annual report and review of employee demographics.

5.1.5 Traffic

Potential traffic impacts are limited to the turnoff from the main road to Etosha Village and the gravel road leading to the lodge and campsite. The C38 Main Road is however a relatively low traffic road and impacts here are expected to be unlikely.

Desired Outcome: Minimum impact on traffic and no transport or traffic related incidents.

Actions

Prevention:

- ◆ Erect clear signage regarding access and exit points at the establishment as well as speed limits and signs warning of animal crossings on the gravel road leading to the lodge and campsite.

Mitigation:

- ◆ If any traffic impacts are expected, possibly as a result of delivery of equipment or construction material, traffic management should be performed to prevent these.
- ◆ The placement of signs to warn and direct traffic will mitigate traffic impacts.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- ◆ A report should be compiled every bi-annually of all incidents reported, complaints received, and action taken.

5.1.6 Health

Daily operational and maintenance and construction activities are reliant on human labour. Such activities have varying degrees of health risks. Examples include exposure to hazardous chemicals with inherent health hazards, such as fuel, disinfectants (e.g. pool and wastewater treatment plant chlorine), pool acid, pesticides, etc. Exposure can include dermal or eye contact, inhalation or ingestion. Treated effluent used for irrigation of gardens may still contain parasitic cysts, even after treatment with chlorine. As such exposure and ingestion of such water, or contact with plants and lawns irrigated with such water, continue to pose health risks.

Visitors and foreign tourists may unknowingly infect staff (or other guests) with an infectious disease/illness. This has the potential to spread among workers who are in close contact with each other.

Food and kitchen hygiene is important to prevent guests and staff from getting food poisoning. Certain guests may have severe allergies to certain foodstuffs.

Activity associated with operations and maintenance / construction is reliant on human labour and therefore health and safety risks exist. The operation of vehicles and machinery as well as handling of hazardous chemicals pose risks to employees. Encounters with wild animals and especially venomous species like snakes may pose risks to staff and especially uninformed guests. The proposed air strip may pose safety risks if not properly designed and operated, and regularly maintained. Security risks will be related to unauthorized entry, theft and sabotage.

Desired Outcome: To prevent injury, health impacts and theft.

Actions

Prevention:

- ◆ Ensure that all relevant employees receive adequate training on the health hazards associated with chemicals and fuel as well as safe handling techniques. Employees must also be trained in the use and understanding of the respective chemicals' material safety data sheets (MSDS).
- ◆ Maintain an MSDS file for all chemicals kept and used on site and ensure that summaries of the most important aspects of each is available (and visible) at each chemical's storage area.
- ◆ Ensure drinking water is safe for human consumption.
- ◆ Clearly label and lock all taps and outlets with treated effluent used for irrigation purposes.
- ◆ Do not irrigate vegetable gardens or lawns around swimming pools, where guest may sit or lie on the grass, with treated effluent, unless it can be ensured, that the water has drained and dried completely (refer to Water Resources Management Act, 2013 regulations).
- ◆ Encourage staff to immediately report any signs/symptoms of illness. Managers to take determine whether such staff should go off duty to prevent infection of other staff and whether medical treatment will be required.
- ◆ Maintain a robust food safety program with clearly defined hazard control points and ensure the cold chain is maintained for temperature sensitive foodstuffs.
- ◆ Regularly clean and disinfect areas with a high probability of bacterial or virus contamination such as bathrooms, restaurants, kitchens, etc.
- ◆ Promote good hygiene and regular hand washing among staff and especially those working in kitchens and with food and beverages.
- ◆ Ensure kitchen staff understand the risks associated with severe food allergies (as opposed to clients with certain food preferences) and that food prepared for clients who indicate such allergies are segregated from any allergy causing foods.
- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool.

- ◆ Provide all employees with required and adequate personal protective equipment (PPE) where required.

Mitigation:

- ◆ Seek medical attention for all serious health related incidents.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Any incidents must be recorded with action taken to prevent future occurrences.
- ◆ A report should be compiled every six months of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

5.1.7 Safety and Security

Various operational and maintenance/construction activities have inherent safety risks. Examples include the operation of vehicles and machinery with moving parts, working with sharp utensils in the kitchen, working at heights, working with potentially dangerous chemicals that can ignite or explode (e.g. chlorine and pool acid when mixed), etc.

Encounters with wild animals and especially venomous species like snakes or scorpions may pose risks to staff and especially uninformed guests.

Security risks will be related to unauthorized persons entering the establishment for malicious reasons such as theft. Theft of guests' belongings may occur, especially in their rooms by housekeeping staff and or other patrons.

Desired Outcome: To prevent injury, theft and damage to property.

Actions

Prevention:

- ◆ Develop a risk specific safety management plan inclusive of emergency equipment that must be present on site, emergency response drills, training and awareness, contact details of all emergency services, etc.
- ◆ Ensure that relevant personnel receive adequate training on the operational procedures of equipment and machinery and the handling of incompatible or dangerous substances (consults relevant MSDS instructions).
- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products. This includes the waste water treatment plant.
- ◆ Implement a maintenance register for all equipment whose malfunction can lead to injury or exposure to hazardous substances.
- ◆ Provide all employees with required and adequate PPE where required.
- ◆ Train selected personnel in first aid and ensure first aid kits are available on site to treat minor injuries.
- ◆ Security procedures and proper security measures must be in place to protect workers and guests.
- ◆ Reduce the amount of cash kept on site to reduce the risk of robberies.
- ◆ Lock away or store all equipment and goods on site in a manner suitable to discourage criminal activities (e.g. theft).
- ◆ Advise guests to lock away valuables in their rooms and not to leave valuable items unattended.
- ◆ Contractors on site must wear identifiable nametags so that staff (and guests) can recognise them as being permitted to be on site.

Mitigation:

- ◆ Treat all minor work related injuries or guest injuries and medical events immediately and obtain professional medical treatment if required.
- ◆ Assess any safety problems and implement corrective action to prevent future occurrences.
- ◆ In line with the Labour Act and any other relevant legislation, take disciplinary action against staff who are guilty of theft.
- ◆ If the need arise, improve security measures to prevent entrance of potentially deviant people onto the premises.

Responsible Body:

- ◆ Proponent

5.1.8 Fire

Construction activities, failing electrical infrastructure and fires outside of designated areas may increase the risk of the occurrence of uncontrolled fires which may spread into the nearby veld. Veld fires may originate elsewhere (e.g. lightning) that in turn pose a risk to the establishment, guests and employees.

Desired Outcome: To prevent property damage, veld fires, possible injury and impacts caused by uncontrolled fires.

Actions:

Prevention:

- ◆ A holistic fire protection and prevention plan is needed. This plan must include evacuation plans and signage, an emergency response plan and a firefighting plan.
- ◆ Personnel training (safe operational procedures, firefighting, fire prevention and responsible housekeeping practices).
- ◆ Ensure all chemicals are stored according to MSDS and SANS instructions and all spills / leaks are cleaned.
- ◆ Maintain regular site, mechanical and electrical inspections and maintenance.
- ◆ Clean and maintain fire breaks at strategic locations around the property.
- ◆ Notify the local farmers' association as well as all surrounding farmers if burns (e.g. to create firebreaks) are planned.
- ◆ Fire used for purposes such as cooking (by staff and campers) must only be allowed within designated areas.

Mitigation:

- ◆ Implement the fire protection and firefighting plan in the event of a fire.
- ◆ Quick response time by trained staff will limit the spread and impact of fire.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- ◆ A report should be compiled every six months of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.

5.1.9 Noise

Since Etosha Village is a tourist establishment, noise are typically kept to a minimum not to be a disturbance to guests. However, during construction and maintenance activities some noise generating activities can exist that may lead to hearing loss in workers. Aircraft landing and taking off from the proposed airstrip may cause noise disturbances at nearby receptors. The closest receptors are the proposed Etosha Outpost and its staff accommodation at approximately 500 m from the proposed airstrip. Other existing and future establishments are beyond Farm Montebello's border, more than a 1,000 m away. Furthermore aircraft will visit the airstrip very infrequently and landing and take-off will be during the day unless there are some sort of emergency.

Desired Outcome: To prevent any nuisance and hearing loss due to noise generated.

Actions

Prevention:

- ◆ Follow Health and Safety Regulations of the Labour Act and/or World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.
- ◆ All machinery must be regularly serviced to ensure minimal noise production.

Mitigation:

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Health and Safety Regulations of the Labour Act and WHO Guidelines.
- ◆ Maintain a complaints register.
- ◆ Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences.

5.1.10 Waste production

Various forms of waste are produced during the operational and construction / maintenance phases. Waste may include hazardous waste associated with hydrocarbon products, chemicals and soil and water contaminated with such products. Construction waste may include building rubble and discarded equipment. Domestic waste will be generated by the establishment and related operations. Waste presents a contamination risk and when not removed regularly may become a health and / or fire hazard.

Desired Outcome: To reduce the amount of waste produced, and prevent pollution and littering.

Actions

Prevention:

- ◆ Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- ◆ Ensure adequate temporary waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of waste at the storage facilities.

Mitigation:

- ◆ Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, and contaminated materials, soil and water).
- ◆ Liaise with the applicable municipality regarding waste and handling of hazardous waste.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- ◆ Any complaints received regarding waste should be recorded with notes on action taken.
- ◆ All information and reporting to be included in a bi-annual report.

5.1.11 Ecosystem and Biodiversity Impact

Etosha Village is an existing establishment. At the lodge and campsite no further impact on vegetation is expected. For the air strip a portion of land will be cleared and this may require removal of some protected trees. Poaching an illegal collection of plant and animal materials may occur. Impacts may also be related to pollution of the environment. Birds and animals colliding with aircraft landing or taking-off from the airstrip.

Desired Outcome: To avoid pollution of, and impacts on, the ecological environment.

Actions.

Prevention:

- ◆ Where possible, removal of trees, especially protected species and large trees, must be avoided during construction activities.
- ◆ The necessary permits from MEFT must be obtained for removal of all protected species.
- ◆ Educate all contracted and permanent employees on the value of biodiversity.
- ◆ Strict conditions prohibiting harvesting and poaching of fauna and flora should be part of employment contracts. This includes prohibitions or regulations on the collection of firewood.
- ◆ Regular inspection of fences and river courses for snares, traps or any other illegal activities.
- ◆ Disciplinary actions to be taken against all employees failing to comply with contractual conditions related to poaching and the environment.
- ◆ Ensure that no animals or birds are present on the airstrip prior to aircraft landing or taking off (e.g. fly-overs or driving length of airstrip with vehicle). If larger animals regularly visit the airstrip, fencing should be considered.

Mitigation:

- ◆ For construction activities, contain construction material to a designated laydown area and prevent unnecessary movement out of areas earmarked for clearing and construction.
- ◆ Report any extraordinary animal sightings to the MEFT.
- ◆ Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- ◆ Avoid scavenging of waste by fauna.

Responsible Body:

- ◆ Directorate of Forestry, MEFT
- ◆ Contractor
- ◆ Proponent

Data Sources and Monitoring:

- ◆ All information and reporting to be included in a bi-annual report.

5.1.12 Groundwater, Surface Water and Soil Contamination

Various sources exist that may potentially pollute soil and subsequently groundwater. This include vehicles and machinery that leak oil or hydraulic fluids (e.g. earthmoving equipment and graders). Operations entail the storage and handling of diesel and chemicals which present contamination risks if not sufficiently contained. Raw sewage or effluent not sufficiently treated that enters the environment can reach groundwater.

Desired Outcome: To prevent the contamination of water and soil.

Actions

Prevention:

- ◆ Proper training of operators of machinery and vehicles and employees must be conducted on a regular basis (fuel and chemical handling, spill detection, spill control).
- ◆ All machinery, equipment and vehicles should be maintained to be in a good working condition during operations.
- ◆ Employ drip trays and spill kits when servicing / repairs of equipment is needed.
- ◆ Spill control structures and procedures must be in place according to SANS standards or better for the consumer fuel installation.
- ◆ The outflow of the fuel tank bund area must have a locked tap which is only opened when rainwater must be released and then only after it has been confirmed that no hydrocarbons are present.
- ◆ The sewage treatment plant must be regularly inspected and serviced to ensure proper working condition.

Mitigation:

- ◆ Any fuel spillage of more than 200 litre must be reported to the relevant authority (Ministry of Industries, Mines and Energy).
- ◆ Spill clean-up means must be readily available on site as per the relevant MSDS and spills must be cleaned up immediately.
- ◆ The fuel tanks' bund area must be cleaned if any fuel products are present and this waste must be disposed of at a suitably classified hazardous waste disposal facility.
- ◆ Adhere to the effluent standards as determined by the effluent disposal license.

Responsible Body:

- ◆ Ministry of Industries, Mines and Energy
- ◆ Department of Water Affairs, Ministry of Agriculture, Fisheries, Water Affairs and Land Reform
- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Effluent disposal license.
- ◆ A report should be compiled bi-annually of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken.

5.1.13 Visual Impact

This is an impact that not only affects the aesthetic appearance, but also the integrity of the establishment.

Desired Outcome: To minimise aesthetic impacts associated with the establishment.

Actions

Mitigation:

- ◆ Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A bi-annual report should be compiled of all complaints received and actions taken.

5.1.14 Impacts on Utilities and Infrastructure

Any damage caused during construction and maintenance activities to existing infrastructure and services supply like roads and electricity where present.

Desired Outcome: No impact on utilities and infrastructure.

Actions

Prevention:

- ◆ Appointing qualified and reputable contractors is essential.
- ◆ The contractor must determine exactly where amenities and pipelines are situated before construction commences (utility clearance e.g. ground penetrating radar surveys).
- ◆ Liaison with the suppliers of services is essential.

Mitigation:

- ◆ Emergency procedures for corrective action available on file.

Responsible Body:

- ◆ Roads Authority
- ◆ CENORED
- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A bi-annual report should be compiled of all incidents that occurred and corrective action taken.

5.1.15 Cumulative Impact

Possible cumulative impacts associated with the operational phase and any maintenance / construction activities are mainly linked to increased traffic. Being isolated, cumulative impacts are however expected to be unlikely.

Desired Outcome: To minimise cumulative all impacts associated with the establishment.

Actions

Mitigation:

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.

5.2 DECOMMISSIONING AND REHABILITATION

Closure and decommissioning of Etosha Village as a whole is not foreseen during the validity of the ECC or in the foreseeable future. However, it is more likely that certain components of Etosha Village may be decommissioned. Decommissioning is therefore included for this purpose as well as the fact that construction activities may also include modification and decommissioning. Future land use after decommissioning should be assessed prior to decommissioning and rehabilitation initiated if the land would not be used for future purposes. Should decommissioning occur at any stage, rehabilitation of the area may be required. Decommissioning will entail the complete removal of all infrastructure including buildings and underground infrastructure. Any pollution present on the site must be remediated. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within the Labour Act and/or WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. The EMP for the establishment will have to be reviewed at the time of decommissioning to cater for changes made to the site and to implement guidelines and mitigation measures.

5.3 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- ◆ A stated environmental policy which sets the desired level of environmental performance;
- ◆ An environmental legal register;
- ◆ An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- ◆ Identification of environmental, safety and health training needs;
- ◆ An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and
- ◆ The EMP.

6 CONCLUSION

The EMP should be used as an on-site reference document for the operations of the establishment. Parties responsible for transgressing of the environmental management plan should be held responsible for any rehabilitation that may need to be undertaken. The Proponent could use an in-house Health, Safety, Security and Environment Management System in conjunction with the EMP. All operational personnel must be taught the contents of these documents.