

# UPDATED ENVIRONMENTAL MANAGEMENT PLAN (EMP)

FOR THE EXISTING AND OPERATIONAL CASCADE ISLAND LODGE  
IN IMPALILA COMMUNAL AREA OF ZAMBEZI REGION



Assessed



**Proponent: Flame of Africa Pty Ltd**  
P.O Box 368  
Kasane  
Botswana

11 January 2024

<b>Title</b>	Environmental Management Plan (EMP) for the existing and operational Cascade Island Lodge (Measuring 5 hectares)
<b>Environmental Practitioner</b>	Nyepez Consultancy cc
<b>Reviewer</b>	Mr. Erongo Consulting cc
<b>Client</b>	Cascade Island Lodge (Flame of Africa Pty Ltd)
<b>Status</b>	Final Updated Environmental Management Plan (AEMP)
<b>Issue Date</b>	January, 2024

## Definitions and abbreviations

DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
I&APS	Interested and affected parties
MAWF	Ministry of Agriculture Water and Forestry
MEFT	Ministry of Environment, Forestry and Tourism

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## **1. INTRODUCTION**

This document presents an amended and updated Environmental Management Plan (EMP) to manage the existing and operational Cascade Island Lodge, a Lodge that has existed and has been in operation within Impalila Island Communal Area for many years. The Cascade Island Lodge is situated along the Zambezi River channels adjacent to the Zambian borders. The total carrying capacity of the Cascade Island Lodge is 20- 30 people per day. The size of the land parcel for the Lodge is 5 hectares.

Flame of Africa Pty Ltd owns and operates two lodges within Impalila Island, namely the (Cascades Island Lodge & Kaza Safari Lodge). The proponent, Flame of Africa Pty Ltd are responsible for all operations and management of the two lodges (Cascades Island Lodge & Kaza Safari Lodge) which are situated within the Impalila Conservancy area in Impalila Communal area. The Lodge is located on the banks of one of the many channels of the Zambezi-Chobe River system on the Northern border between Namibia and Zambia (Mwandi province).

The proponent Flame of Africa Pty Ltd is obliged by the competent authority to seek to acquire an environmental clearance certificate for compliance of the existing and operations of the Lodge against the environment its operating. The Lodge requires a ECC that is based on business principle of an eco-tourism and conservation of environment. Given the need and requirements of the needed clearance certificate, and in order to ensure compliance to the Environmental Management Act of 2007, the proponent is obliged to apply for a Clearance certificate that informs the general public and operating management of the existing Lodge operations activities and mitigation measures put in place to ensure sustainability and effective environmental protection of the tourism business development.

Thus, any major or minor changes in the operation of the Lodge have and can change the scope of the physical environment, the physical characteristics of the project area. Consequently, however no change in the operations, extent or size of the lodge were done in the last few years hence the subsequent approval of the environmental clearance certificate based on existing lodge operational activities. It is therefore required as per

the Environmental Act no. 7 of 2007 that an updated Environmental Management Plan detailing such changes in project activities be compiled and submitted to the environmental commissioner for approval.

### **1.1 OPERATIONAL ACTIVITIES OF THE LODGE**

Cascade Island Lodge is an exclusive lodge and a wonderful place to stay for a honeymoon, offering great service, stylish accommodation and excellent food. As well as being incorporated into a trip through the Zambezi region (Caprivi), a stay at Cascade can easily be combined into most trips to Botswana or even used for a short side-trip of a few days when coming from or going to the Livingstone and Victoria Falls. The Cascade Island Lodge employees about 27 permanent employees.

Regarding the physical development of the lodge, to the front of the main area, overlooking the Mambova rapids, is a fire pit surrounded by directors' chairs where the campfire is set up in the evenings and guests gather before and after dinner to chat and enjoy drinks. The lodge also has an elevated, river-facing viewing deck from where guests often enjoy beautiful views and watch the bird and wildlife which frequent this area. Cascade is very close to Chobe National Park in Botswana, so some of the lodge activities are based around various types of game viewing experiences. Most lodge activities are privately guided - each set of guests being allocated their own personal guide. These include boat trips along the Chobe River where, in season, guests get to see huge herds of elephant coming to

The Proponent hires local Namibians from the Impalila Island and surrounding areas of Kasika to access job opportunities through an established lodge employment farmwork. The objectives of this employment and skills development framework are to: enhance employment opportunities for the locals and to adhere to employment targets and agreements, to formulate plans for the development of skills of local employees, and develop a framework for regulating Social Responsibility efforts, assistance programs, donation and community welfare efforts.

In addition, concession(s) and structured agreement between Cascade Island Lodge (Flame of Africa Pty Ltd), Impalila Community and Impalila Conservancy came into effect on January 2016 regarding community benefits and lodge operation arrangements. The agreement allows Flame of Africa Pty Ltd to operate the Lodge within the Impalila

conservancy area in conjunction with local community. In doing so, this increase community benefits and improve community-operators' relations. Regular communications between the Lodge operators, Lodge Manager, Flame of Africa Pty Ltd Environmental Officer and the conservancy is often undertaken and any communications, including complaints from the conservancy are usually recorded and addressed collectively with the involved development stakeholders.

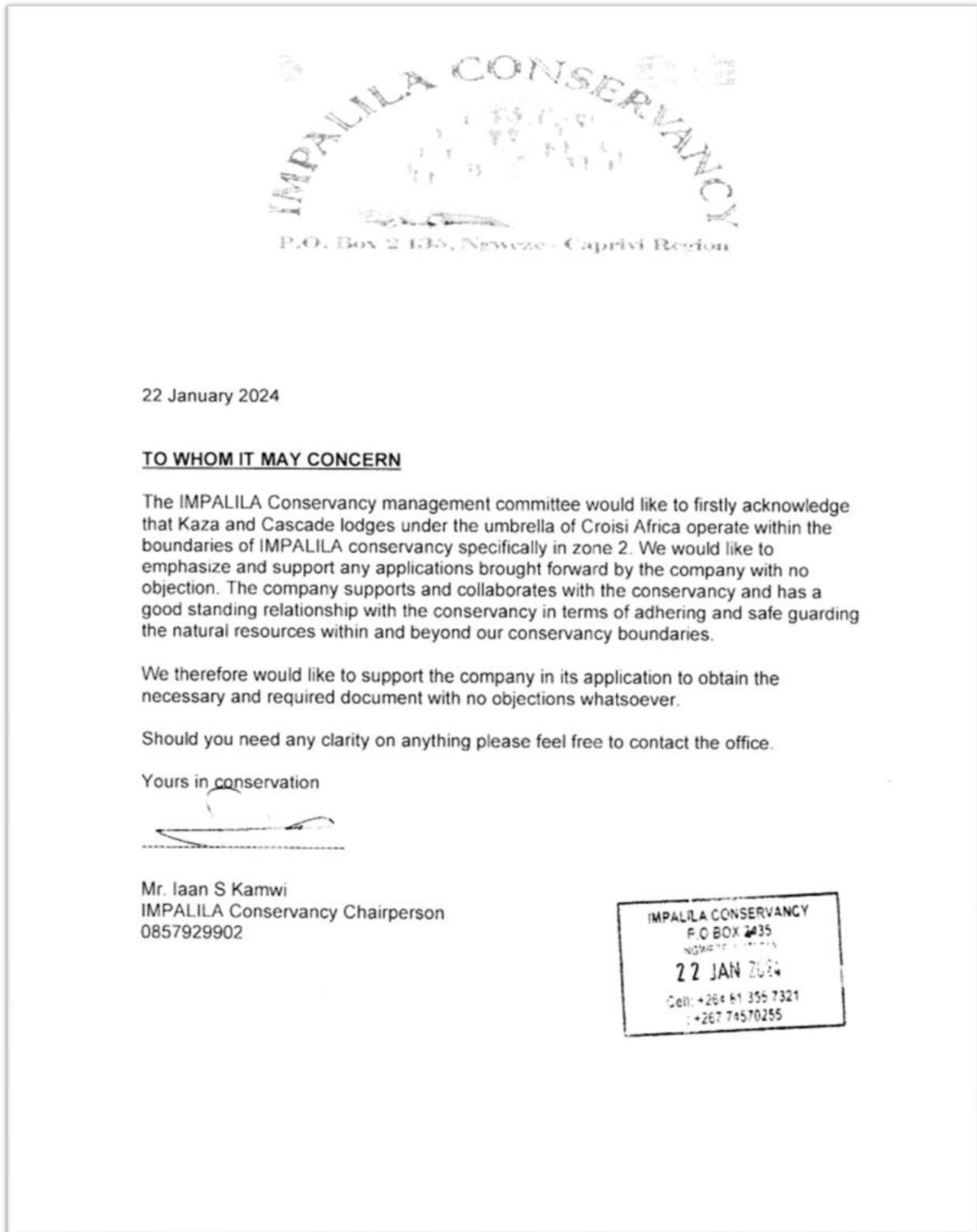


Figure 1: Conservancy consent & agreement



Impalila Sub-Khuta  
P/Bag 5006  
Katima Mulilo  
Namibia  
22/01/2024

TO WHOM IT MAY CONCERN

REF: ACKNOWLEDGEMENT LETTER FOR  
KAZA & CASCADE LODGES

The Impalila Sub-Khuta here by acknowledges that Kaza & Cascade Lodges under Croisi Africa operates within the boundaries of Impalila Conservancy specifically in zone 2 here in Impalila Island. Therefore we support any applications brought forward by them with no objections as we have a good standing relationship with them.

This is the true information we have here at Impalila Sub-Khuta.

Thanking you in anticipation as you process their applications in whichever way they approach your humble offices.

Figure 2: Consent letter Masubia Traditional Authority

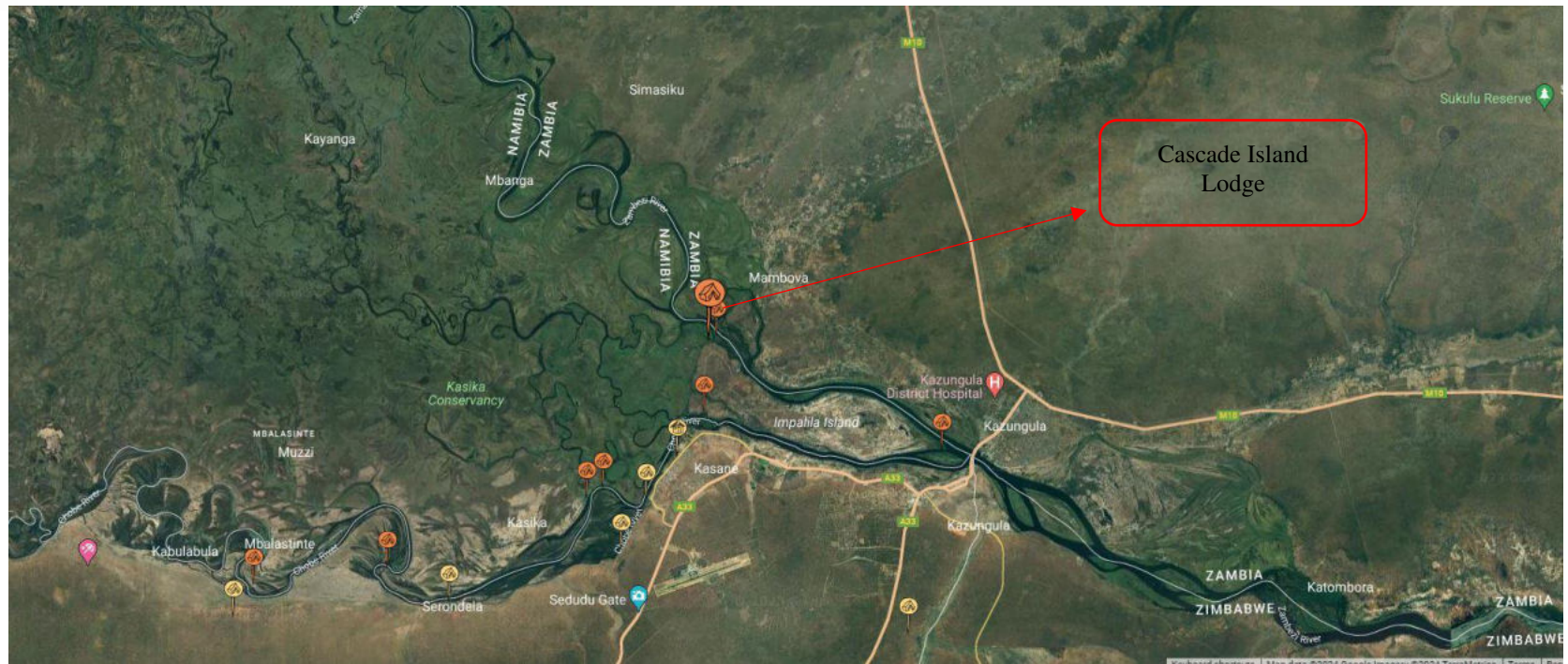


## **1.2 AVAILABLE LODGE UTILITY SERVICES**

Large and private suites within the lodge are furnished to a very high standard with king-size beds surrounded by mosquito netting drapes. Further, clients and guests can look out over their private deck with plunge pool; both nestled amongst the lush vegetation. The rooms have two comfortable chairs with a reading table in between, a wardrobe, writing desk, tea and coffee making facilities, a decanter of sherry, a well-stocked mini bar (included) and a small safe. Outside each accommodation rooms there is a sala (with day bed) and a wooden veranda extending over the river with swings and deck chairs, as well as the plunge pool to cool off from the day's heat.

The spacious en-suite bathrooms are pretty impressive with wooden basins, a luxurious stone bathtub with both an indoor and outdoor shower. The main building has an open plan lounge area with comfortable sofas and a dining area with individual tables. There is a well-stocked bar and a walk-in wine cellar available to enjoy some pre and post dinner drinks. Cascade Island Lodge has a curio shop, too, to buy some souvenirs from your trip. The Lodge site has a sewage purification system processes the wastes and then return usable consumable water to the lodge. The lodge has generator and alternate solar powered electricity and as well as clean water for consumption. As a result, the lodge is fully furnished and has been operational since 2016.

According to the proponent, the existing and operational Lodge tourism business is serving as a precious, modest tourism resting area to suit the local and international level, which is boosting the local socio-economic, promote and improve surrounding property values and land uses alongside the Impalila and Chobe riverbanks and has brought competitive employment creation, promote the beautiful scenery, aesthetics of Impalila communal area and communities.



*Figure 3: Regional map & Lodge locality site map*

According to the Namibian environmental legislation (Environmental Management Act (No. 7 of 2007) (EMA) and the EIA Regulations (GN. No. 30 of 2012), an Environmental Management Plan (EMP) is required to obtain an Environmental Clearance Certificate (ECC) from the Ministry of Environment, Forestry and Tourism (MET) for this business operation to continue.

NYEPEZ Consultants (NC) is appointed to draft an updated and/or amended EMP as part of the application to acquire a valid ECC. This updated EMP is to be implemented to mitigate the potential impacts of the Lodge development and business operations. The contents of this updated EMP will be binding on all parties who will have a role to play in the Site operations as stipulated in the report and will be liable for the rehabilitation measures recommended in last section of this report.

### **1.3 PURPOSE THE EMP**

The aim of an updated EMP is to ensure that the activities of this particular existing and operational business development are conducted as per the requirements of the Namibian Environmental Management Act (No. 7 of 2007) and EIA regulations of 2012. The updated EMP provides and explains a clear guideline on how the daily activities should be conducted and also provides a monitoring framework to ensure compliance against the recommended mitigation measures to avert any possible negative impacts.

Furthermore, other purpose of this updated EMP is to provide a management framework for the planning and implementation of the operations of the Lodge and provide standards and operating arrangements so that potential environmental and social impacts of the Lodge are mitigated, prevented and minimized as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

This updated EMP also presents protocols and procedures, and roles and responsibilities to ensure the management arrangements are appropriately and effectively implemented. This EMP is a live document and shall be reviewed at predetermined intervals, and/or updated when the scope of works alters, or when further data / information can be added. All personnel working on the project will be legally required to comply with the standards set out in this EMP. The 2012 EIA Regulations defines a 'management plan' as: "...a

plan that describes how activities that may have significant environments effects on the environment are to be mitigated controlled and monitored.

### **1.3.1 EMP Requirements**

EMP requirements as outlined in the below Sections of this EMP explains the EMP requirement of the 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.

### **1.3.2 Compliance to the EMP**

Content of this updated EMP is tailored in accordance with the prevailing EMA Act and the EIA Regulations. The aim is to provide appropriate management measures that would address the identified impacts that the project could bring about as stipulated in the Lodge development specifications. The remedial and mitigation measures recommended for rehabilitation remain binding to all staffs and all employees. Adherence to the specifications identified herein is highly recommended throughout the lifespan of the facility.

It should be noted that the updated and amended EMP shall not only be limited to the facility operations, but it encompasses the bigger picture. The document serves as the guiding tool to protecting the overall natural, bio-physical and socio-economic environment at large.

### **1.3.3 Proponent responsibility to the EMP**

As the proponent, Flame of Africa Pty shall assume overall responsibility and implementation of the updated EMP. The Lodge tourism facility Manager holds the mandate and sole responsibility of managing the daily operations and shall ensure that any other person (e.g., Casual Workers) is conversant with the contents of the EMP and adhere to the requirements. The following environmental sensitive conditions as outlined the ECC certificate have been obeyed and complied to;

- That the proponent **Flame of Africa Pty** have not and does not intend to dispose any waste waters affluents in both in the conservancy area and on the Kwando River bank channels. The Lodge have well designed and connect septic tank where all affluent liquid wastes are channeled.
- That both the Impalila Community and Conservancy entities are fully involved in the monitoring and overseeing that no lodge activities operating within the spaces of Cascade Island Lodge or the Impalila Conservancy disposes waste water affluent in the rivers. This empowers the conservancies and community members to give them full responsibility of protecting the river and the environment
- Cascade Island Lodge operators has ensured that the most sensitive and key biodiversity habitats along the river and within the rivers and surrounding wetland areas remain protected. A copy of the updated EMP shall be kept at the Site premises and induction sensitization workshops are often conducted with all new employees prior to commencement of their responsibilities.

### **1.3.4 Possible adjustment to the EMP**

The EMP should be considered as an open-ended document that can be updated or amended subject to new information. This EMP represent an amended and updated version of the existing Cascade Island Lodge operational activities. This allow for adjustments in the document as new information is made available and new mitigation where unforeseen environmental impacts arise.

### **1.3.5 Legal Framework that area relevant to the EMP**

In addition to the EMA and the Environmental Assessment Policy, Namibia has a host of legal and policy documents and guidelines that govern environmental management as

indicated in Table 1 below. Flame of Africa Pty has the responsibility to ensure that NO restricted Lodge activities will be conducted and will be carried out during any preparation, construction and operation phase of the existing and operational Lodge development.

Table 1: Relevant legislation and the applicability

<b>Legislation considered</b>	<b>Aspect of Project</b>
Regional Councils Act, 1992 (Act No. 22 of 1992)	The Regional Councils Act legislates the establishment of Regional Councils that are responsible for the planning and coordination of regional policies and development. The main objective of this Act is to initiate, supervise, manage and evaluate development in respective regions. Zambezi Regional Council is an I&AP to this project and they have No objection to the proposed project proposal. Rights shall be reserved to them should they wish to review the EMP.
Water Resources Management Act (Act No. 11 of 2013)	This Act provides a framework for managing water resources based on the principles of integrated water resources management. It provides for the management, development, protection, conservation, and use of water resources. Furthermore, any watercourse on/or in proximity to the site and associated ecosystems should be protected in alignment with the listed principles. Construction activities pose danger to surface and underground water resources through the inappropriate use of fuels and lubricants. The proponent shall ensure adequate handling of hazardous substances that could pollute water sources.
Pollution Control and Waste Management Bill (in preparation)	This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force. The Bill also provides for noise, dust or odour control that may be considered a nuisance. The Bill would repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force. Furthermore, the Bill advocates for duty of care with respect to waste management

	<p>affecting humans and the environment and calls for a waste management license for any activity relating to waste or hazardous waste management.</p>
<p>Atmospheric Pollution Prevention Ordinance (Act No.11 of 1976)</p>	<p>This Ordinance serves to control air pollution from point sources, but it does not consider ambient air quality. Any person carrying out a ‘scheduled process’ which are processes resulting in noxious or offensive gases typically pertaining to point source emissions have to obtain a registration certificate from the Department of Health Although we do not anticipate the mining activities to generate excessive dust particles, the proponent should implement the necessary mitigation measures to limit dust emissions to air.</p>
<p>Public Health Act (Act No. 36 of 1919)</p>	<p>The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health. The proponent should ensure that the site workers are provided with protective gear to safeguard their wellbeing. The activities should also be conducted in a manner that does not pose any danger to the public and that any emissions which could be considered a nuisance remain at acceptable levels.</p>
<p>Labour Act (Act No. 6 of 2007)</p>	<p>The 1997 Regulations relating to the Health and Safety of employees at work sets out the duties of the employer, welfare and facilities at the workplace, safety of machinery, hazardous substances, physical hazards, medical provisions, construction safety and electrical safety. Specifically, no employer shall require or permit an employee to work in an environment that is deemed unfit without protective measures in place. The proponent as the employer should adhere with all the requirements of the Act and the associated Regulations.</p>

## **2.PROJECT DESCRIPTION**

### **2.1 Project Locality**

Cascade Island Lodge lies on the very eastern tip of Namibia's Caprivi Strip, with Zambia a stone's throw to the north, Botswana 1.5 kilometers to the south, and Victoria Falls 70-odd kilometers downstream. The lodge sits on tiny, densely forested Impalila Island, one of a small archipelago in the Mambova Rapids at the confluence of the Chobe and Zambezi rivers. The land is located within the Masubia Traditional Authority's area of Jurisdiction, in Kabbe South Constituency. This area of the region is known for its prodigious wildlife, especially elephants, which reach their greatest concentration from June to November. With only four guest suites, Cascade is both private and romantic – a lovely lodge in a wild and watery setting.

Situated 70 kilometers upriver from the Victoria Falls on the Zambezi River, Cascade Island Lodge (formerly Ntwala Island Lodge) is quite simply a beautiful and exclusive lodge retreat. Located on a private island, with only four luxurious double suites that are each individually designed, Cascade Island Lodge is often booked exclusively for the use of groups on pre-arranged set departure trips





**Figure 4:** Locality of Cascade Island Lodge



REPUBLIC OF NAMIBIA

MINISTRY OF AGRICULTURE, WATER AND LAND REFORM

CERTIFICATE OF LEASEHOLD FOR ANY PURPOSE OTHER THAN  
AGRICULTURAL PURPOSES OUTSIDE A DESIGNATED AREA

As in the Communal Land Reform Act, 2002 (Section 33, Regulation 16)

Certificate No: **ZAMCLB-ROL-008290**

It is hereby certified that a Right of Leasehold has been granted to:

Right holder: **Kaza Safari (PTY) Ltd**  
Company Registration Number 2002/0105

Residential address: Impalila island, kaza safari  
Postal address: 33 Schanzen Road, Windhoek  
Nature of right holder: Juridical Entity

Description of portion of land in respect of which land right has been granted:

UPI:	IMPLIL100180	Constituency:	KABBE SOUTH
Area:	Impalila	Traditional Authority:	Masubia
Parcel size:	5.0 ha	Traditional Administrative Area:	Impalila Island
Region:	Zambezi		

Description of land right which has been granted:

Approved land use:	Tourism (LODGE)	approval date:	22.02.2018
Leasehold period:	09.08.2018 until 09.08.2053		
Other right on parcel:		approval date:	

\_\_\_\_\_  
Signature of CLB Chairperson/ Secretary

\_\_\_\_\_  
Date



The figure above represents parcel:

UPI: IMPLIL100180

Size: 5.0 ha



1 centimeter = 50 meters  
scale: 1:5 000

Corner points and map display:  
Projection: Geographic  
Datum: WGS84  
Units: Decimal Degree

Corner points:

Point	Latitude	Longitude	Point	Latitude	Longitude	Point	Latitude	Longitude	Point	Latitude	Longitude
1	-17.75255	25.17259	2	-17.75319	25.17331	3	-17.75378	25.17462	4	-17.75225	25.17366
5	-17.75087	25.17243	6	-17.75033	25.17162	7	-17.75085	25.17111	8	-17.75124	25.17113
9	-17.75167	25.17124	10	-17.75241	25.17216						

Figure 5: Cascade Island Lodge Leasehold Certificate & Project site area coordinates

## 2.2 Lodge Project development utilities

Flame of Africa Pty (The proponent) hold the accountability of the Lodge and its operational activities and is therefore responsible for the implementation and management of this EMP. As the operations of the Lodge continue to operate, the EMP shall be reviewed by the Lodge Manager, and shall be amended and updated as required and approved ready for implementation. The implementation and management of this updated EMP and the monitoring of compliance shall continue to be undertaken through daily duties and activities and monthly inspections. A top-of-the-range lodge completely redesigned in the heart of nature. It features noble materials for a refined and comfortable safari atmosphere. Located on a private island, surrounded by the Zambezi, it offers a unique and intimate experience. The Lodge consists of 8 spacious bungalows (over 80m<sup>2</sup>) with ethnic decoration offering all the necessary comfort, as well as a large terrace, private pool and panoramic view. Its equipment will contribute to your well-being:

Restaurant area / lounge / bar

Large patio with view of the Zambezi River rapids

Free Wi-Fi

Laundry service (with supplement)

Gift Shop

Rental of fishing equipment

The lodge has an active surveillance system. After the fall of the night, passengers who wish so may be accompanied in their movements between the common space and their bungalow by a security guard. Further each bungalow has the following facilities:

- Private swimming pool
- Patio with deckchairs & Lounge area
- Air Conditioning/Heating & TV with DVD player
- Hair dryer / bathrobes / slippers / toiletries
- Shower and bathtub - Outdoor shower
- Kettle and espresso machine (tea / coffee)
- Minibar filled with water and sodas
- Provision of insecticide bombs - Flashlight - Waterproof Coat- Umbrella - Free Wifi
- Plugs (220V) with adapters covering the majority of countries



Figure 6: Standard Bungalow of the lodge

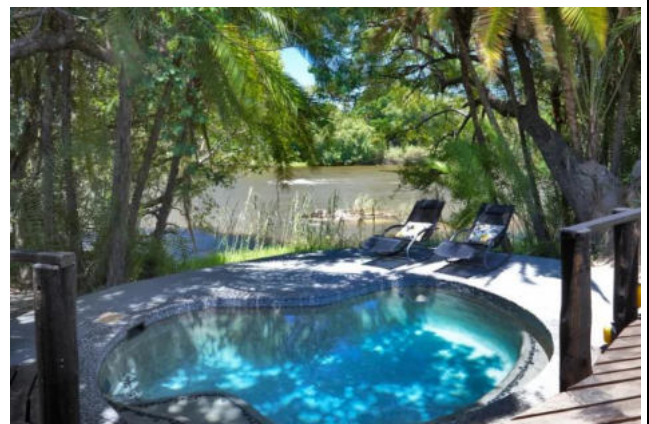
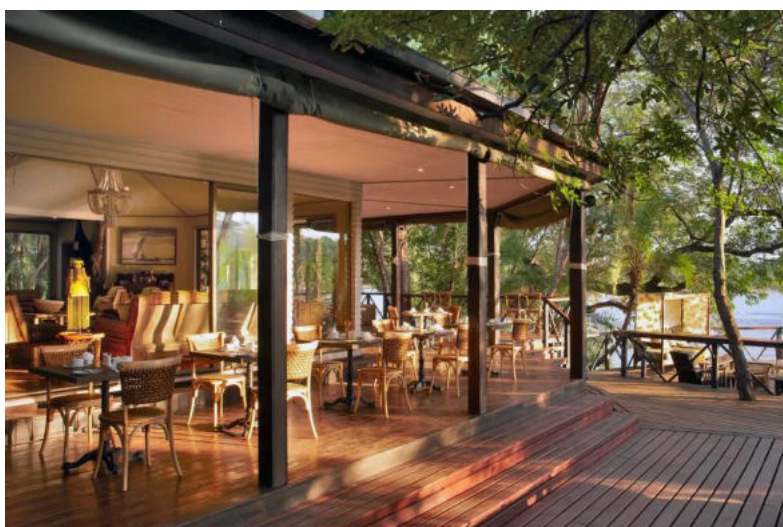


Figure 7: Cascade Island Lodge (structural development & facilities)

The proponent Flame of Africa Pty is responsible for:

- Ensuring all members of the Project Team, including contractors and consultants comply with the procedures set out in this EMP
- Ensuring that all persons are provided with sufficient training, supervision and instruction to fulfil this requirement, and
- Ensuring that any persons allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood.

### **2.3 Employment and Skills Development**

The Proponent (Flame of Africa Pty) hires and have hired local residents (Namibians) from Impalila communal area and other surrounding villages as a way of empowering and uplifting local residents' livelihood by through provision of jobs. The main objectives of this Employment and Skills Development Plan are to:

- Clarify employment and recruitment procedures of local community members
- Clarify and adhere to Employment targets
- Formulate plans for the development of skills of local employees, and
- Develop a framework for regulating Social Responsibility efforts, assistance programs, donation and community welfare efforts

### **3. PROJECT ACTIVITIES ASSESSMENT CRITERIA**

According to Pastakia (1998) the Rapid Environmental Assessment method can be used to assess projects related to the guesthouse development project and Pastakia's method will be used during the assessment. The ranking formulas area calculated as follows;

$$A=A1 \times A2$$

$$B=B1 +B2+B3$$

$$\text{Environmental Classification (ES) } =A \times B$$

**Table 2: Environmental Classification of Impacts according the Rapid Impact Assessment Method of Pastakia 1998**

<b>Environmental Classification (ES)</b>	<b>Class Value</b>	<b>Description of Class</b>
108 to 72	5	Major positive change/impact
71 to 36	4	Significant positive change/impact

35 to 19	3	Moderate positive change/impact
10 to 18	2	Positive change/impact
1 to 9	1	Slight positive change/impact
0	0	No change/status quo/not applicable
-1 to -9	-1	Slight negative change/impact
-10 to -18	-2	Negative change/impact
-19 to -35	-3	Moderate negative change/impact
-36 to -71	-4	Significant negative change/impact
-72 to -108	-5	Major negative change/impact

The EMP will have specific targets for each year that will be evaluated by the annual Environmental audit. The audit can make recommendations which will necessitate Changes in the EMP. The EMP will be reviewed on an ongoing basis as new environmental challenges arise or targets/objectives are achieved. The Operations Manager will ensure that this review occurs in a timely manner.

Criteria	Score
<b>Importance of condition (A1) –Assessed against the spatial boundaries of human interest it will affect</b>	
important to national/international interests	4
important to regional/national interests	3
important to areas immediately outside the local condition	2
important only to the local condition	1
No importance.	0
<b>Magnitude of changes /effects (A2) –measure of scale in terms of benefits of an impact or condition</b>	
Major positive benefits	3
Significant improvement in the status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in the status quo	-1
Significant negative disbelief or change	-2
Major disbelief or change	-3
<b>Permanence (B1) –defines whether the condition is permanent or temporary</b>	
No change/not applicable	1
Reversible	2

Permanent	3
<b>Cumulative (B3) –reflects whether the effects will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition-not to be confused with the permanence criterion</b>	
Light or No cumulative Character /Not applicable	1
Modern Cumulative character	2
Strong Cumulative character	3

#### Summary of expected operational phase impacts prior to mitigation

BE=Biological/Ecological EO=Economical/Operational PC=Physical/ Chemical SC= Sociological/Cultural

Impact Category	Impact Type	Class Value
BE	Waste pollution	-1
BE	Ecosystem and Biodiversity impact	-1
EO	Fire	-2
PC	Groundwater, surface water and soil contamination	-1
SC	Skills, Technology and development	2
SC	Employment	2
SC	Cumulative	-2

## 4. ENVIRONMENTAL MANAGEMENT PLAN

An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measure needed. The Environmental Management Plan (EMP) provides management options to ensure impacts of the Lodge development project operations are minimized. The EMP acts as a stand-alone document, which can be used during the various phases (operational and decommissioning) of the lodge development project. All personnel taking part in the operation of the guesthouse project should be made aware of the contents of the EMP, so as to plan the relevant activities accordingly in an environmental suitable way.

### 4.1. Objectives And Targets

Environmental objectives for the operations of the Lodge are as follows:

- Zero pollution incidents



- Minimize waste sent to landfill or being burnt
- Protect local flora and fauna and minimize disruption
- Minimize light and noise pollution, and
- Use natural resources effectively and efficiently.

Procedures for monitoring processes against the project environmental objectives will be agreed with the Environmental officer

#### **4.2. Safari Boat Safety Information**

Small sized safari boats safety management plan will be developed and implemented in accordance with the specifications of the Lodge and passenger water vessels in Namibia. The Lodge has Safari viewing map developed that serve as guide and directs the boats and tour guides during river and wildlife navigations and points of interest along the river. The map also contains useful boating information as well as an index and GPS reference.

#### **4.3 Infrastructure utilities**

The Lodge have existing and operational electrical supply onsite, electricity that is powered by 3400V Solar panels and high-performance generator. The Lodge has an Automatic water purification machine which purifies water from pumped directly from the river. The purification machine also purifies all waste waters from sewage systems, from kitchens turning this water into usable water for human consumption and domestic uses. The Lodge has an existing access road network often used by tourists to reach the lodge destination. Other means of transport used to access the Lodge is the use of guest boats that transport guests for safari views and game drives. Other amenities services offered by the lodge are;

Amenities

Ensuite private bathroom

Fan

Housekeeping

Safe

Viewing Deck

As a result, no changes or amendment in terms of current existing and operational lodge structural design, infrastructure upgrading or infrastructure development is required. Hence all infrastructural services remain the same.



*Figure 8: Electricity power generator & other Amenity services available at the lodge*

## 4.4 Pollution Control & Mitigations

### 4.4.1 Handling of Fuel, Oil and Chemicals

The Lodge facility Manager takes all reasonable precautions to prevent fuel, oil and chemical whilst undertaking works on site. To this end, the Site Manager ensures that:

- All necessary approvals are in place prior to bringing fuel, oil or chemicals to the Lodge
- All fuel, oil and chemical deliveries (if any) shall be supervised by a responsible person, who shall be trained to deal with any spills
- Regular checks are performed to verify that no leaking or defective equipment, and
- Equipment is maintained regularly to ensure that no fuel, oil or hydraulic leaks occur.

The Lodge Manager often ensures that there is sufficient absorbent material and spill & safety kits available on site to manage accidental spills. The location of and instructions on how to use this equipment is included in the included in the guest Induction booklet. Nominated Lodge personnel are appropriately trained to use spill kits. Any accidental spillages of fuels and oils, or other hazardous substances, are usually cleaned up immediately and be reported Lodge Manager and Environmental Officer. The following responses shall be undertaken:

**Minor spill:** Only diesel and oil, with no human injury, contamination to water bodies or other environmental receptors. Contain and clean up the spill using available spill kit. The Lodge Manager shall inform the PM and Environmental Officer, supplying the following information:

- Date, time, and location
- Substance spilled and quantity, and
- Actions taken, and any future remediation required.

**Major Spill:** Resulting in human injury or/and environmental contamination and water body contamination. Personnel will contain the spill if possible and report the spill to the Lodge Manager, who shall then alert the appropriate emergency services and the Environment Officer. In addition to the above information for a minor spill, the Lodge Manager is also informed of any immediate dangers, e.g., fire, explosion, release of chemical fumes.

### 4.4.2 Sewerage and Greywater

The Lodge have a state of the art, modern and sophisticated well-maintained water and grey water purification plant or machine. This purification system absorbs all sewerage and domestic used grey waters and purifies the dirty water into usable water for human, livestock and domestic uses. The lodge therefore does not produce any sewerage or gray waters as all the grey waters are purified or recycled into usable water. The Lodge has no accommodation *houseboats* that caters for guest; thus, no sewerage or grey water is released into the river from the boats.



*Figure 9: State of art Purification System, water pump & water tanks*

#### **4.4.3 General Waste**

The lodge area is equipped with designated rubbish bins to ensure that all domestic waste is collected and disposed of sustainably through the existing waste management arrangements. Waste separation continue to be practiced, to ensure that all recyclable material is collected and sent for recycling. It is recommended that the Lodge produce a

Waste Management Plan. The EMA (2007), Section 3, paragraph (i) states that waste must be reduced, re-used and recycled where possible, therefore in accordance with the Act, waste generated as a result of operating the Lodge is often managed and dealt with in accordance with a Waste Management Plan. This Plan was produced prior to operations of the Lodge commencing and included the following information:

- Describe each waste type expected to be produced
- Estimate the quantity of each waste type
- Identify the waste management action proposed for each waste stream, including re-using, recycling, recovery and disposal
- Designated areas to collect and separate waste, and
- Identify waste carrier and waste disposal company.

The Waste Management Plan was and is updated on a regular basis to ensure all waste and disposal route are identified. The aim of the Waste Management Plan is to achieve sustainable waste management. Their main purpose is to outline waste streams and identify the best treatment and disposal option for each one, applying the waste management hierarchy and avoiding as much waste as possible ending up at landfill or being burnt. In addition, it will also outline any potential economical and investment requirements for the treatment and / or disposal of waste.

#### **4.4.4 Environmental Monitoring**

Monitoring during operations is and shall be undertaken to ensure the effects on society and the environment are minimized, and to evaluate how effective the environmental management has been, over an extended period of time. The Lodge Manager will set out monitoring arrangements prior to the operations of the Lodge.

## **5. ROLE PLAYERS & RESPONSIBILITIES**

This section outlines the roles and responsibilities of the respective key personnel that would be responsible for effective implementation of the EMP.

### **5.1 Roles and responsibilities**

Assigning responsibilities is necessary to ensure that key procedures are followed. The overall responsibility to ensure that the EMP is implemented rests with the Site Lodge Manager, who shall appoint a team of workers to undertake the actual work.

**The Key role-players for the project implementation are:**

- a) An Environmental Compliance Officer (ECO) representing MET for environmental auditing and monitoring;
- b) The Site Lodge Manager (or assigned representation by Flame of Africa Pty Ltd)

All instructions and official communications regarding environmental matters shall follow the organizational structure as determined by Flame of Africa Pty Ltd. The only exception to this rule would be in an emergency (defined as a situation requiring immediate action and where failure to intervene timeously would, result in unacceptable environmental degradation), where instructions may be given directly to any other Site personnel.

**Project development Lodge Manager:**

The Lodge Site Manager is and will be responsible for the overall daily operations at the Lodge facility and shall be responsible to adherence to the EMP throughout the project span. All team members shall be well-versed with the contents of this document. The following are some **key responsibilities**;

- Ensure that the works on-site (Lodge) are conducted in an environmentally sensitive manner and in accordance with the requirements of the EMP at all times. Special care shall be taken to prevent irreversible damage to the environment.
- Ensure that all site Lodge staff are adequately informed of the requirements of the EMP pertaining to their site role, and that they have attended an environmental induction session (this session was and will be in the form of a talk and/or a written code of conduct that is clearly explained and understood by the team).

**The Environmental Compliance Officer: ECO**

The ECO in the context of this document refers to the party responsible for the environmental compliance and auditing activities required by the EMP for the lifecycle of the Site. The ECO shall be an independent environmental manager. The ECO shall have adequate

environmental knowledge to understand the detailed environmental issues associated with the project, and is to be well versed in the contents of the EMP:

- The ECO shall undertake all monitoring and auditing activities to ensure compliance with the EMP.
- The ECO shall inspect the site at any suitable time during operation of the lodge
- The ECO shall compile progress reports following any site inspections, Compliance Reports following any non-compliance, and a Closure report following the conclusion of Lodge activities.
- The ECO shall liaise closely with the Lodge site manager and shall provide guidance on any environmental management issues, incidents or emergencies that are brought to their attention.
- The ECO shall assist in providing recommendations for remedial action in the event of any non-compliances.

## **5.2 Compliance with Requirements**

Environmental management is not only concerned with the impacts on the environment, 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 standard of the day-to-day operations as well as the wellbeing of the immediate communities

The development of an updated EMP for a project is therefore an important and necessary task that is aimed at assigning responsibilities and mitigation options to a variety of activities. However, it can also be an ineffective tool in the absence of auditing or monitoring activities. Auditing or monitoring activities involve the structured observation, measurement, and evaluation of environmental data over a period of time.

## **5.3 Disciplinary Action**

The EMP is a legally binding document. 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) financial penalties, legal action, fines and/or suspension of work. The disciplinary action shall be determined according to the nature of the non-compliance or crime, and exact penalties are to the discretion of MEFT (Ministry of Environment, Forest and Tourism) according to the severity of the incident. Measures to

be implemented by Flame of Africa Pty Ltd with assistance of monitoring by the ECO are outlined in the table below.



**ASSESSMENT OF ENVIRONMENTAL ASPECTS AND PROPOSED MITIGATION MEASURES TO BE PERFORMED BY THE CONTRACTOR AND PROPONENT DURING ALL PHASES OF THE PROJECT (FLAME OF AFRICA PTY LTD)**

An environmental review for the operations of the Lodge is and/or has been completed to identify all the commitments and agreements made within the EIA report. From this, a schedule of environmental commitments and risks has been produced, which details deliverables including measures identified for the prevention of pollution or damage to the environment.

**Table 3:** Lodge EMP & mitigation measures

<b>ACTIVITY</b>	<b>RISKS AND POTENTIAL IMPACTS</b>	<b>MANAGEMENT / MITIGATION MEASURES</b>	<b>MONITORING REQUIREMENTS</b>	<b>FREQUENCY</b>	<b>RESPONSIBILITY</b>
Refueling tender boat and Lodge generator	Spillages of fuel, oil and lubricants.	Use of solar panel power supply. Activity to be undertaken by a suitably qualified person. Spill kits available Use of dips trays during the transfer	Monitor fuel use	Daily	Lodge Manager Personnel
Operations of mechanical equipment and engines	Spillages of fuel, oil and lubricants.	Undertake regular checks of all plant and equipment Service plant and equipment annually Spill kits available Clear spills immediately	Daily checks Monthly inspections / compliance checks	Daily Monthly	Lodge Manager Personnel
Increased tourists to the area and taking part in activities – use of generators, engines and general noise sources	Increase noise levels	Boat engine and moving components are to be kept in good working order at all times to avoid capsizing and to minimize noise impact Guests are to be provided awareness on interactions and impacts on aquatic ecology No loud music Careful siting of generators Turn off engines when not required No idling	Daily checks Monthly inspections / compliance checks	Daily Monthly	Lodge Manager Personnel
Increased tourists to the area and taking part in	Human-wildlife conflicts – animal	Train personnel and guides Provide environmental awareness to guests' No-go areas on the river Limit the	Monthly checks of environment	Monthly	Lodge Manager or Environmental Officer

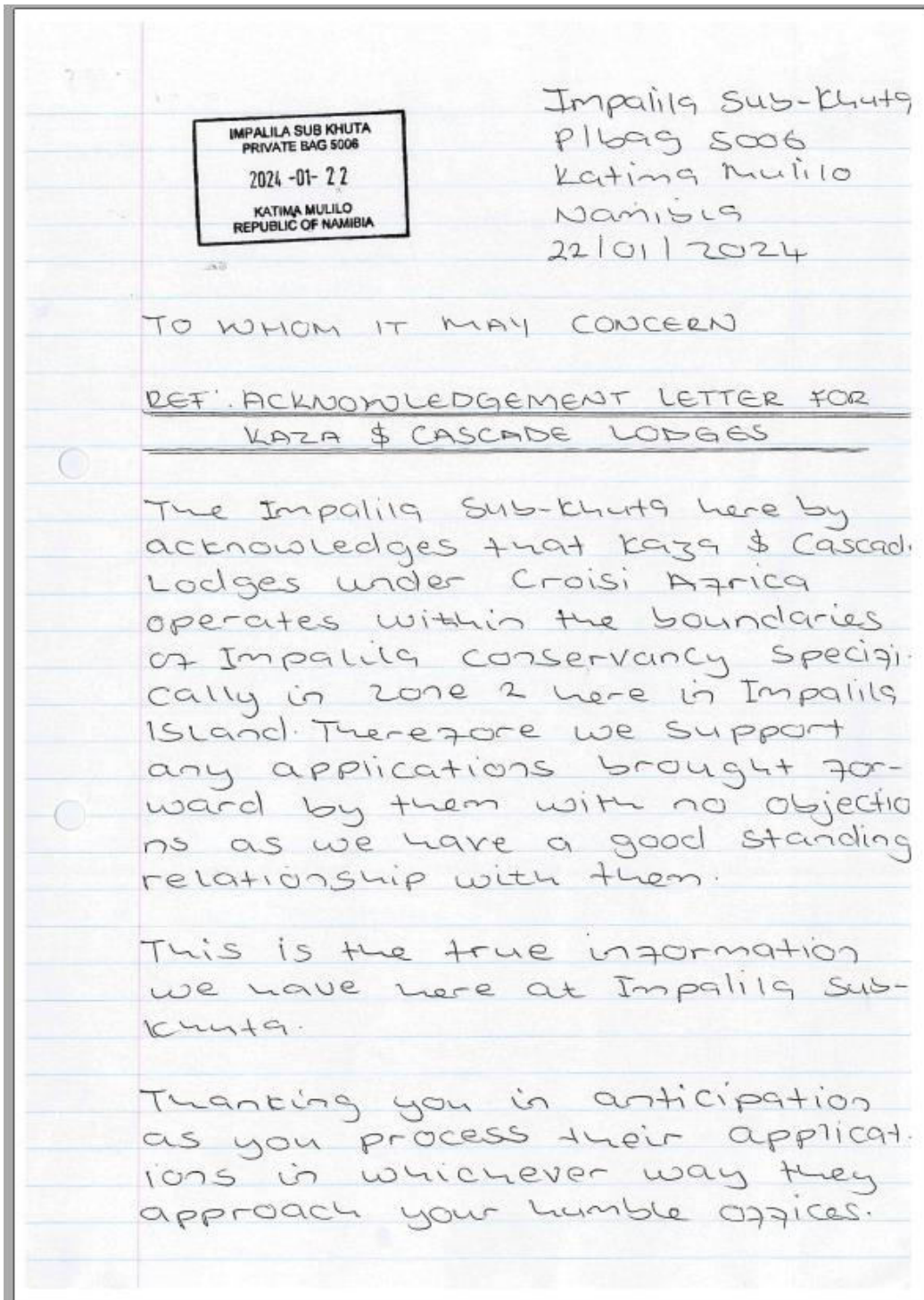
activities / Safari boat in close proximity to animals	injury, disturbance or mortality	number of tender boats on the river at any one time Prevent killing of animals No stopping on the river unless approved by the Environmental Officer			
Abstraction of water from the river	Disturbance to the natural environment and use of resources	Use of borehole water for human consumption instead of river water. Train personnel and environmental awareness -minimize use of water Inform guests of water usage and consumptions issues / use water wisely Maintenance of plant and equipment – no leaks	Test water annually to ensure it is appropriate for consumption	Annual	Lodge Manager or Environmental Officer
Sewerage production and disposal	Contamination of water resources. Reduction in water quality Flora and fauna affected	Septic tank Sewerage waste absorption system onsite or on the Lodge site.	The septic tanks must be designed to give a minimum of 24 hours retention of the sewage influent. Regular checks on the septic tank waste treatment facility. Regular water samples will be taken from those river & borehole to ensure that river water quality is maintained and comply with the prescribes general standards	Daily Monthly	Lodge Manager or Environmental Officer
Production and disposal of greywater (showers and kitchen operations) Use of chemicals	Reduction in water quality Flora and fauna affected	All of the zinks, showers, and toilets on each restroom are collectively connected to the specially designed liquid waste septic tank. The capacity of this tank accommodates all waste produced within the Lodge. Therefore, no greywater is	Regular water quality samples	Weekly / monthly	Lodge Manager or Environmental Officer

		produced on the Lodge tourism facility.			
Increased tourists - Increased waste	Solid waste (litter) escaping into the environment. Greater quantity to be disposed of – landfill = land take, burning = air pollution	Implementation of the Waste Management Plan and application of the waste management hierarchy Suitable collection points for the waste on Lodge. Waste collected weekly and transported in suitable containers. Any hazardous waste such as waste oil/lubricant cans are stored in a hazardous waste storage bin and disposed of by an accredited hazardous waste handlers.	Monthly compliance checks	Monthly	Lodge Manager & Lodge personnel
Increased tourists – Food introduced into the ecosystem	Change in the local flora and fauna, and habits of aquatic species	Notices to inform guests of the rules Appropriate bins and removal of waste each day	None	None	Lodge Manager Lodge personnel
Lodge & Safari boats Maintenance or renovations	Oils, fuels, chemicals paints, waste entering the aquatic environment and causing pollution / contamination – reduce water quality, affect flora and fauna	Implementation of the Waste Management Plan Suitable collection points for the waste on Lodge. Waste collected daily and transported in suitable containers Spill kits Limit use of chemicals Training of staff	Monthly compliance checks  None	Monthly	Lodge Manager or Environmental Officer
Lighting from the safari boats & Lodge	Artificial lighting could affect birds and fish in particular, as these species rely upon moonlight to navigate at night time. Amphibians, such as frogs could also be disturbed,	Use of energy efficient light forms Low beam / low LEDs Avoid lighting where unnecessary Avoid lights being grouped together. Lights switched off at night	Monthly compliance checks	Monthly	Lodge Manager or Environmental Officer

	and feeding and mating rituals could be affected. Sources				
Maintenance of area in the vicinity of the Lodge	Removal of vegetations	Remove invasive alien species Remove vegetation during the winter months or prescribed times by the Environmental Officer	Monthly checks to visually check the growth of vegetations	Monthly	Lodge Manager Environmental Officer
Increased number of guests and operations	Water Resources: Use of Energy and waste production	Train staff so they are aware of the need to save energy Inform guests and include information on the Lodge Use of energy wisely – solar power (ensure well maintained) and energy saving lightbulbs	Monitor fuel use. Monitor energy consumption and water abstraction Monitor waste as part of waste management plan	Monthly	Lodge Manager or Environmental Officer
Location of Lodge	Geomorphology and ecological impacts	The Lodge shall be moored at the same location which will not move during operations. These sites have been identified and shall not be deviated from except is sensitive environmental features are located in the area and the mooring spot needs to be moved by a few meters.	Weekly and monthly compliance checks	Weekly and monthly	Lodge Manager
Soil / water pollution	Negative impact on soil	Adequate solid waste containers must be provided for garbage collection to minimize entry into gullies and ultimately into the water. Workers must be instructed to use garbage containers and their use or lack of use monitored where possible	Weekly and monthly compliance checks	Weekly and monthly	Lodge Manager
Fires	Destruction of natural habitat	Placement of “NO Fire” sign boards around the Lodge and Open fire to be avoided	Weekly and monthly compliance checks	Daily and monthly	Lodge Manager

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Nyepuz Consultancy CC  
Environmental and Management Consultant

**APPENDIXES**



Yours faithfully  
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22 January 2024

**TO WHOM IT MAY CONCERN**

The IMPALILA Conservancy management committee would like to firstly acknowledge that Kaza and Cascade lodges under the umbrella of Croisi Africa operate within the boundaries of IMPALILA conservancy specifically in zone 2. We would like to emphasize and support any applications brought forward by the company with no objection. The company supports and collaborates with the conservancy and has a good standing relationship with the conservancy in terms of adhering and safe guarding the natural resources within and beyond our conservancy boundaries.

We therefore would like to support the company in its application to obtain the necessary and required document with no objections whatsoever.

Should you need any clarity on anything please feel free to contact the office.

Yours in conservation

Mr. Jaan S Kamwi  
IMPALILA Conservancy Chairperson  
0857929902

