

**Environmental Management Plan
for the
Operations of Riverside Lodge, Musanga Area, Zambezi Region**



November 2025

Riverside Lodge

P. O. Box

Ngweze

Namibia

Project Information

<i>Project Title</i>	Environmental Management Plan for Operations of Riverside Lodge in Musanga Area, Zambezi Region.	
<i>App Ref</i>		
<i>Reviews</i>	Version 1 22 October 2025	
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Abbreviations

ECC	: Environmental Clearance Certificate
EMP	: Environmental Management Plan
DEAF	: Directorate of Environmental Affairs and Forestry
MEFT	: Ministry of Environment, Forestry and Tourism

1. Introduction

Riverside Lodge is located in the Musanga area of Zambezi Region and is engaged in tourism and hospitality activities that involve providing accommodation and related leisure services to local and transient visitors. Tourism and hospitality are listed in the Annexure to the Schedule of Gazette No. 29 of 2012 of the Environmental Management Act (No. 7 of 2007). The activity cannot be undertaken without an environmental clearance certificate (ECC) and therefore, Riverside Lodge is obliged to comply with the referred legislative requirements for its operations.

Subservient to the above requirements, Namib Consulting Services CC was appointed by Riverside Recreation Enterprises to provide services related to applying to the Ministry of Environment, Forestry and Tourism (MEFT) for an ECC for the operation of the lodge. Subsequently, this document is composed in compliance to the requirements set out from the screening of the operational concept but further, the requirements of the environmental impact assessment process as per the EIA Regulations (GN. No 30 of 2012) to develop an environmental management plan (EMP) for the operations of Riverside Lodge.

2. Objective

The objective of this document is to carry out an environmental scoping of the operations of Riverside Lodge to determine the environmental and social consequences towards the development of an EMP. The EMP will provide a framework to ensure compliance to the requirements prescribed by the Environmental Management Act (No.7 of 2007)

3. Locality

Riverside Lodge is located in Musanga area, some 6 km east on the outskirts of the town of Katima Mulilo, along the southern bank of the Zambezi River. The lodge is accessible through the B8 Highway proceeding to Ngoma, however turning east into a district road some 5 kilometres from the central business district after passing the Mahohoma location and Katima Brick Making Facility.



Figure 3:1 Location of Riverside Lodge

4. Land Ownership and Use

Riverside Lodge is owned by Riverside Recreation Enterprises and was developed in 2021 on an area of 2-hectares. The land is in the communal area that is administered through the traditional systems. The characteristics land use around the lodge are typical of those in communal areas and thus include crop farming areas and village residences and some other similar tourism and hospitality facilities.

5. Description of Activity

Riverside Lodge provides accommodation and hosts formal events whilst providing leisure services for day visitors. There are several onsite facilities that include guestrooms, a conference hall, riverbank platform, a kitchen, restrooms and a laundry room. These facilities can be clustered for purposes of environmental scoping into:

- i. Accommodation facility
- ii. Kitchen facility
- iii. Conference and leisure facility
- iv. Laundry facility

These facilities are described in detail below:

- i. *Accommodation* – there are ten (10) guestrooms providing options for single, double or family accommodation needs. These rooms are self-contained with restrooms. The lodge further provides an option for camping within the premisses.
- ii. *Kitchen* – serves for preparation of meals and subsequent servings to guests. While compulsory morning meals are served to guests, day meals are served on request to day-visitors or overnight guests.
- iii. *Conference and leisure facility* – the conference has the capacity to host up to 100 people for various formal gathering and informal gathering events. This facility has restrooms providing for both male and female genders. The sanitary rooms are connected to an own separate septic tank. The platform at the riverbank provides for leisure for the visitors.
- iv. *Laundry facility*– provides for the upkeep of guestrooms through supply of clean linen. The laundry consists of one washing machine and utilises the sewer reticulating lines for detergent water to the septic tank.
- v. *Other facilities/services* – other services of importance to the operations are the supply of basic services such as water, electricity and waste management. Water is obtained from the Zambezi River using a solar pump and treated onsite through a mini purification plant, while power supply is supplied from the regional power grid/supplier.

Located in a rural setting, solid and wastewater management options are limited to own arrangements. In terms of wastewater, the operations consist of one septic tank located outside the lodge across a rural road. Solid waste is collected from all onsite facilities and conveyed to a single collection point also located outside the lodge. Some treatment of this solid waste involves occasional open burning to reduce volumes.

6. Relevant Legislation

A review of relevant legislation to operations of this listed activity, provides those described in Table 1.

Table 1 Relevant legislation to the proposed activity

Legislative Instrument	Requirement	Applicability
Namibian Constitution (1990)	Article 95 on maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources in a sustainable way for the benefit of all Namibians, both present and future.	A relatively high level of environmental protection is called upon in respect of pollution control and waste management and protection of natural resources.
Environmental Management Act No. 7 Of 2007 And Environmental Impact Assessment Regulations GN of 2012	Aims to promote the sustainable management of the environment and the use of natural resources. further provides for a process of assessment and control of activities which may have significant effects on the environment. The Act and its regulations prescribe the requirements for obtaining an ECC for listed activities.	As listed activity this project is to align with the requirements to develop an EMP towards compliance with the Act.
The Water Resources Management Act (No 11 of 2013)	Sections 68: places individuals or Institutions responsible for an activity that has potential for pollution to take necessary steps to prevent occurrence. Part 11: Section 44 addressing the abstraction of water from a source for commercial requires a license.	Take all necessary efforts to prevent the pollution of the water source. The Proponent to familiarise with the requirements of the Act to determine level of compliance required.

Labour Act Of 2007	The objectives of the Act are to ensure the health, safety and welfare of employees but also outlines the rights and obligation of employers.	The welfare of workers needs be safeguarded in the work environment.
Soil Conservation Act 76 of 1969	Intends to combat and prevent soil erosion, and for the conservation, protection and improvement of the soil, vegetation and the sources and resources of the water supplies. Under section 4 the Minister may by means of a direction order the owner of land to construct the soil conservation works.	Operations shall not lead to exacerbated erosion.
Communal Land Reform Act 5 of 2002 (section 30)	To provide for the allocation of rights in respect of communal land; to establish Communal Land Boards; to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land; and to make provision for incidental matters.	Rights over the portion of land need to follow necessary allocation process for security of the operations.
Namibia Tourism Board Act 21 of 2000	Section 30 of the act requires persons that establish accommodation facilities to register with the Namibia Tourism Board.	Registration with the Namibia Tourism Board.
National Solid Waste Management Strategy	The strategy aims to strengthen institutional and legal framework for management of solid waste serving as a guide to institutions such as local authorities on sound waste management practices.	Provides a guide to managing solid waste based on sustainable development principles.

7. Impact Identification and Mitigation

Although there are various approaches to impact identification, all will agree to the terms; aspects, impacts and mitigation. Aspects refers product or service conducted by the activities of the proponent or their agent's or representatives that interact with receptors such as environment or people resulting in impacts of positive or adverse in nature. The impacts necessitate some intervention in form of measure to ensure they are maintained or enhanced if positive or mitigated if adverse.

7.1 Aspects

The following aspects are identified from onsite operations:

- i. *Kitchen and restaurant facilities*—operations of this facility interact with receptors (i.e. guests) to render meal services. It is recognisable from these the aspects food and subsequent refuse therefrom. Such waste will include packaging for food, leftover food and detergent water from the kitchen. Solid materials are collected and transferred to the collection point outside the Lodge premisses.

- ii. *Accommodation facilities*- while these are for the comfort of overnighiting for guests, aspects therefrom relate to wastewater from bathrooms and refuse of various types from waste bins. Guest rooms are connected to a septic tank for storage prior pumping, when necessary, by private contractors to wastewater management facilities of the local council. Refuse is transferred to a waste collection point outside the of premises.
- iii. *Laundry facility* – this facility provides clean linen and other materials as aspects that are important for the upkeep of guestrooms and other facilities. The laundry produces detergent water as well as refuse from packaging for detergents in various forms such as plastic and hard papers. Detergent water is disposed to a septic tank located on the outskirts of the Lodge.
- iv. *Conference and leisure facility* – this facility hosts events as a service and thus an identifiable aspect. In rendering this service, impacts arise from use of bathroom facilities that generate wastewater and refuse from various residual materials utilised during events. These may include waste papers, cans and others.
- v. *Sanitary facilities* – these render ablutions services to day guests, campers as well as onsite personnel. Wastewater from this facility reticulates to the septic tank on the outside of the lodge. Any refuse from these facilities is collected and deposited to the dumping site located outside the lodge.
- vi. *Other services/facilities* – the use of products or services such as water and electricity has broader sustainability implications on these resources for present and future generations and thus require adopting conservancy approach. Meanwhile, operations that involve waste in its solid or liquid nature has implications of adverse nature to the environment and people.

7.2 Impacts

The following impacts are identified from the guest house operations:

Table 2 Operational aspects and associated impacts

Service or Product	Aspect	Impact
Kitchen	Excess food	– Can create unhygienic and nuisance conditions to human health and welfare – Can lead to loss of aesthetic value of the local environment

Kitchen & restaurant/Laundry /Conference and public restrooms and guest rooms	Various refuse	– Pollute the local environment if not well managed leading to loss of aesthetic value of the local environment and unhygienic conditions
Kitchen & restaurant/Laundry /Conference and public restrooms. Guestrooms	Wastewater across bathrooms and laundry facility to the septic tanks	– Create an unhygienic and nuisance condition that threaten human health and welfare – Contaminate the local surface or subsurface water sources.
Other services	Potable water from the Zambezi River	– Over abstraction of a shared natural resource – Improved access to potable water
	Electrified facilities onsite	– Convenience of life in rural setting – Excessive use of the resource limiting production and availability to others

7.3 Mitigation

The following mitigation controls are identified for the identified impacts:

Table 3 Impact mitigations

Service or Product	Aspect	Impact	Mitigation
Kitchen	Excess food	– Can create unhygienic and nuisance conditions to human health and welfare	– Separate surplus food refuse from other waste for better handling. – Consider the recycling of food waste through composting or alternatively supply to other users for pig farming or worm growing
		– Can lead to loss of aesthetic value of the local environment	– No food waste should be discarded to an unmanaged site – Waste food storage or disposal site shall be secured in a fence area.
		– Can attract wild animals such as baboons, monkeys, Jackals etc.	– Ensure any waste food supplied to other users is well handled for intended use
Kitchen & restaurant/Laundry /Conference and public restrooms	Various refuse	– Pollute the local environment if not well managed leading to loss of aesthetic value of the local environment and unhygienic conditions	– No random disposal of refuse to be allowed onsite or the surrounding area. – As far as practically possible, introduce waste separation into plastics, cans and hard papers/package's or boxes. – Non-recyclable waste to be delivered at a local designated waste disposal site. – Collaboration with any local waste recyclers for collection and reuse of recyclable waste.

			– Ensure the transportation for non-recyclable waste does not allow litter in transit by covering waste up to site. – No refuse shall be allowed to litter the site or surrounding environment. – Buring of waste is not allowed, however minimal managed incineration of some waste such as had paper may be practiced. – Temporary refuse disposal site to be fenced off
Kitchen & restaurant/Laundry /Conference and public restrooms	Wastewater across bathrooms and laundry facility to the septic tanks	– Create an unhygienic and nuisance condition that threaten human health and welfare – Contaminate the local subsurface water resources.	– No wastewater shall be allowed to spill or leak into the local environment from reticulating pipes. – The use of septic tanks for wastewater management as per practice must be maintained however with implementation of a standard operating procedure for maintenance to ensure no overflows. – Carry out regular inspection of conservancy tanks for any signs of leakage and address soonest. – Monitor the levels of the septic tank and address potential for overflows immediately if any. – Inspect integrity of the reticulating lines for leakages and address where necessary. – Introduce the use of drip buckets when contractor empties septic tanks.

Other services	Potable water from Zambezi River	– Over abstraction of a public natural resource – Improved access to potable water	– Monitor the volumes of water abstracted from the river where possible. – Ensure compliance with water legislation in terms of abstraction of water for commercial operations such as a hospitality and tourism facility. – Ensure potable water reticulating pipes and tapes are leak proof. – Ensure personnel are conscious of water saving use both and thus no unnecessary use of water. – Ensure the assurance of water quality for water for consumption by guests by testing for quality and advisory on use.
	Electrified facilities	Convenience of life in rural setting	Improved rural living.
		Excessive use of the resource limiting production and availability to others	– Ensure unnecessary lighting are switched off. – Ensure all cooling equipment are switched off not is use.

8. Environmental Management Plan

8.1 Objective

This Environmental Management Plan (EMP) establishes a framework that addresses adverse impacts from the operation of Riverside Lodge. The overall objective of the EMP is that operations are carried out systemically to ensure adverse impacts are mitigated whilst enhancing the derivable benefits.

8.2 Roles and Responsibilities

The following roles and responsibilities are established towards the implementation and compliance to the EMP.

8.2.1 The Proponent

The Proponent remains the owners of Riverside Lodge. The following responsibilities will reside with the proponent:

- Ensure implementation of all requirements of the EMP, inclusive of legislative and financial requirements to always ensure compliance with the entire scope of measures prescribed.
- Ensure the implementation of the EMP and all matters relating to monitoring, review, and updates.
- Keep and maintain a monitoring, review, and update schedule on the progress of implementing the EMP.
- Ensure other relevant stakeholders if any, are updated and informed on the implementation of EMP. (i.e. local headmen, and village development representatives if any).
- Ensure that all the required environmental licenses and permits have been obtained as required.
- Ensure environmental inspections, audits and monitoring of environmental factors as established in EMP.
- Produce reports on environmental and social performance as per monitoring plan at stipulated intervals.
- Ensure that operations are reviewed and new impacts identified and embedded from unforeseen activities and recommend necessary measures for avoidance, or mitigation.

8.2.2 Environmental Control Officer

The role of an Environmental Control Officer (ECO) is critical to the implementation of an environmental management plan, however, the limitation to employ such designations for small operations has been obvious. Therefore, the Proponent will oversee the implementation, the role of ECO is recommended to an environmental consultant to offer intermittent auditing and inspections towards meeting compliance to the ECC requirements.

8.3 Implementation Plan

The following table sets out a plan to comprehensively manage the identified impacts, further outlining the responsibilities and frequency of effecting the measures.

Table 4 Operational management schedule

Service or Product	Aspect	Impact		Frequency	Responsible
Kitchen	Excess food	– Can create unhygienic and nuisance conditions to human health and welfare	– Separate surplus food refuse from other waste for better handling. – Consider the recycling of food waste through composting or alternatively supply to other users for pig farming or worm rearing	Continuously	Proponent
		– Can lead to loss of aesthetic value of the local environment	– No food waste should be discarded to an unmanaged site – Ensure any waste food supplied to other users is well handled for intended use.	Continuously	
			– Waste food storage or disposal site shall be secured in a fenced area	Once off	
		– Can attract wild animals like baboon, monkeys, Jackals etc			
Kitchen & restaurant/Laundry /Conference and public restrooms	Various refuse	– Pollute the local environment if not well managed leading to loss of	– No random disposal of refuse to be allowed onsite or the surrounding area. – As far as practically possible, introduce waste separation into plastics, cans and hard papers/package's or boxes.	Continuously	

		aesthetic value of the local environment and unhygienic conditions	– Non-recyclable waste to be delivered at a local designated waste disposal site. – Collaboration with any local waste recyclers for collection and reuse of recyclable waste. – Ensure the transportation for non-recyclable waste does not allow litter in transit but cover waste up to site. – No refuse shall be allowed to litter the site or surrounding environment. – Burning of waste is not allowed, however minimal managed incineration of some waste such as hard paper, boxes may be practiced for a limited time.		
Kitchen & restaurant/Laundry /Conference and public restrooms	Wastewater across bathrooms and laundry facility to the septic tanks	– Create an unhygienic and nuisance condition that threaten human health and welfare – Contaminate the local subsurface water resources.	– No wastewater shall be allowed to spill or leak into the local environment from reticulating pipes. – The use of septic tanks for wastewater management as per practice must be maintained however with implementation of a standard operating maintenance procedure to ensure no overflows. – Carry out regular inspection of conservancy tanks for any signs of leakage and address soonest. – Monitor the levels of the septic tank and address potential for overflows immediately if any. – Inspect all integrity of the reticulating lines for leakages and address where necessary. – Introduce the use of drip buckets when contractor empties septic tanks. – Ensure septic tank area is de-bushed and fenced off	Continuously	

Other services	Potable water from Zambezi River	– Over abstraction of a public natural resource – Improved access to potable water	– Monitor the volumes of water abstracted from the borehole where possible. – Ensure potable water reticulating pipes and tapes are leak proof. – Ensure personnel are conscious of water saving use both and thus no unnecessary use of water. – Ensure the assurance of water quality for water for consumption by guests by testing for quality and advisory on use.	Continuously	–
			– Ensure compliance with water legislation in terms of abstraction of water for commercial operations such as a hospitality and tourism facility.	Once-off	
	Electrified facilities	Convenience of life in rural setting	Improved rural living.		
		Excessive use of the resource limiting production and availability to others	– Ensure unnecessary lighting are switched off. – Ensure all cooling equipment are switched off not is use.	Continuously	

8.4 Review of the Plan

This EMP must be applied as an on-site reference document for the operations to remain compliant with legislative requirements. The validity of the EMP is determined by the duration of the ECC that will further stipulate required reporting requirements. It is therefore, necessary that regular self-auditing on quarterly basis is implemented should an ECC be issued. In the absence of an ECO, an environmental consultant should be acquired to consolidate reports in alignment with reporting requirements.

9. Conclusion and Recommendations

9.1 Conclusion

Riverside Lodge is as a tourism and hospitality operation and renders these services in the Musanga area to local and trainset guests. This activity is among those listed in the requirements of Environmental Management Act and the EIA Regulations, that cannot be undertaken without an environmental clearance certificate.

In the review of onsite operations, it was found that the major environmental challenges are potential pollution and health hazards from various sources that include:

- a) Effluent from the various facilities onsite
- b) Refuse of various types
- c) Use of natural resources or their derivatives

Premised on the above established potential impacts, mitigation measures were identified and consolidated into a management plan. These measures are based on standard practice in the field of environmental management and more so considered standard practice.

The Proponent through the established roles shall be liable for the implementation of the EMP and to achieve required level of compliance. Non-compliance shall be subject to legislative requirements and subsequent applicable legal processes by the Office of the Environmental Commissioner.

9.2 Recommendation

The Environmental Assessment Practitioner recommends to the Environmental Commissioner, that this developed EMP is a sufficient tool and framework to adequately manage the potential significant adverse impacts established in the report from the operations at Riverside Lodge. It is therefore recommended that the Proponent be issued an environmental clearance certificate for the operation of the lodge.



Septic tank



laundry room



Camping area



guardroom



Water treatment plant



waste collection drums



Dumping site



Septic tank



Losse construction items



Chalet accommodations