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# **ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

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**FOR THE PROPOSED REZONING OF ERF 1528 & 1530,  
RUNDU EXTENSION 5 FROM GENERAL RESIDENTIAL  
AND RESIDENTIAL TO HOSPITALITY AND THE  
CONSOLIDATION OF THE AFOREMENTIONED ERVEN  
WITH ERF 1532, RUNDU, KAVANGO EAST REGION,  
NAMIBIA**



**NOVEMBER 2021**

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## **1. INTRODUCTION AND BACKGROUND**

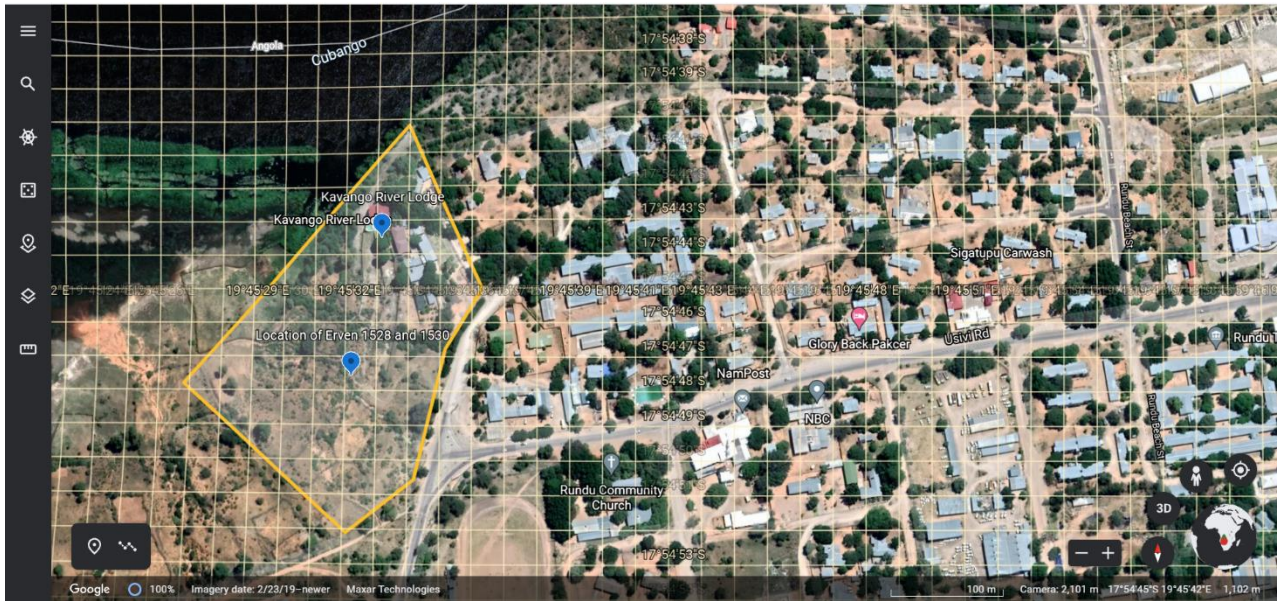
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Kavango River Lodge CC, the owner of Erven 1528, 1530 & 1532, Rundu Extension 5, intends to carry out the following activities:

- **Rezoning of Erf 1528, Rundu Extension 5 from “General Residential” to “Hospitality”.**
- **Rezoning of Erf 1530, Rundu Extension 5 from “Residential” to “Hospitality”.**
- **Consolidation of the aforementioned rezoned erven with Erf 1532, Rundu, Extension 5.**
- **Consent to commence with the Proposed Development / Land Use (Hospitality) on the newly consolidated erf whilst rezoning is ongoing.**

The current lodge is located on Erf 1532. The envisioned consolidation would increase the development potential of the erf. The management of the lodge intends to expand the current facilities of the lodge to include four new rooms and a public swimming pool, which will draw more visitors to the lodge.

The project will take place in Rundu, the capital of the Kavango East Region. Erven 1528 (General Residential) and 1530 (Residential) are located in the neighbourhood of Rundu Extension 5. Erven 1528 and 1530, Rundu Extension 5 measure approximately 35,603 m<sup>2</sup> and 12 727 m<sup>2</sup> in extent, respectively.



Locality of Kavango River Lodge and Erf 1528 & 1530.

## 2. THE PROPOSED PROJECT ACTIVITIES

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The proposed consolidated erf will comprise of the following erven and their sizes:

- ERF No: 1532 is about 5, 725 m<sup>2</sup>
- ERF No: 1530 is about 12, 727 m<sup>2</sup>
- ERF No: 1528 is about 35, 603 m<sup>2</sup>

**Total 54, 055 m<sup>2</sup>**

Once the rezoning and consolidation is approved, the management of the lodge intends to expand the current facilities of the lodge to include four new rooms and a public swimming pool, which will draw more visitors to the lodge.

### **Services and other infrastructure required will be provided as follow:**

- **Water & Electricity Supply**

The Rundu Town Council who in turn is supplied by the national bulk water supplier, Namibia Water Corporation (Namwater), supplies potable water for the lodge. The same service will be extended to the two erven.

- **Refuse and Waste Management**

- **Construction Phase:**

The waste to be generated from construction activities will be stored in skip containers. Once the containers are full, they will be transported to the Rundu waste disposal site. Construction workers will also be encouraged to refrain from littering. Hazardous waste generated from construction activities such as used oil and paint containers will be stored in specialized containers and thereafter disposed of responsibly.

- **Operational Phase:**

During the operations of the lodge, there will be various waste streams. If not managed properly some waste such as plastic bags and packaging material can be blown by the wind to other parts of the lodge and the environs near the Kavango River. This will have a negative impact on the pristine natural surroundings and can have an impact on the visual properties of the area.

The lodge management has introduced a waste management system that is based on environmental sustainability principles. Waste at the lodge is collected and deposited in centralized bins. Each different part of the lodge and guest units have their own waste bins that are emptied by the cleaners and deposited at the central collection point. The waste is then collected by the Rundu Town Council and sometimes buy own transport for proper disposal.

The lodge will try to minimize the cost involved in waste management and environmental impacts by implementing the Integrated Waste Management Hierarchy.



In the Integrated Waste Management Hierarchy the emphasis should first be to avoid the production of waste, were the avoidance of waste is not possible the amount of waste produced should be minimized, reuse and recycle before disposal is contemplated. This is the approach that is been promoted worldwide.

- **Accessibility**

Accessed to the two erven will be through the existing street access to Kavango River Lodge. No new roads and streets will be created.

- **Fire Fighting Provision**

The Kavango River Lodge uses the Rundu Town Council Fire Brigade in case of fire emergencies. This service forms part of the rates and taxes that Rundu residents and businesses pays to the Rundu Town Council.

- **Sewage Management**

The Kavango River Lodge is connected to the sewage reticulation system of the Rundu Town Council. The infrastructure to be developed at the two erven will similarly be connected to the town council sewage reticulation system.

### **3. EMP OBJECTIVES**

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An Environmental Management Plan (EMP) describes the processes that the proponent (Kavango River Lodge) and associates will follow to maximize compliance and minimize harm to the environment. This plan will also help Kavango River Lodge map out progress toward achieving continual improvements. The EMP comprises of a list of actions needed to mitigate the potential negative environmental impacts identified in the EIA.

The development of an EMP is a requirement for any EIA project as per Namibia's *Environmental Management Act No.7 of 2007*. Therefore this EMP is a legal document that must accompany the EIA Report before an Environmental Clearance is issued.

**The main purpose of this EMP is to:**

- Minimize adverse impacts on the environment;
- Protect the environmental quality of the site;
- Meet the requirements of all national and local legislations;
- Outline guidelines for construction of services and operational phase.
- Provide detailed specifications for the management and mitigation of activities that have the potential to impact negatively on the environment.

## 4. LEGISLATIVE FRAMEWORK

This section provides an analysis of the policies and legislations that are relevant to the proposed rezoning, consolidation and expansion of the lodge infrastructure. This section aims to inform the proponent about the requirements to be fulfilled in undertaking the proposed project.

The table below lists the various environmental and developmental policies and legislations that have relevance to the project.

LEGISLATION	PROVISION	REGULATORY AUTHORITY	APPLICATION TO THE PROJECT
<b>The Constitution of the Republic of Namibia</b>	Article 91 (c) and 95 (i) which commit the state to actively promote and maintain environmental welfare of all Namibians by promoting sustainable development	Government of the Republic of Namibia	The project should not pose a threat to the natural and human environment.
<b>Environmental Management Act No.7 of 2007 and EIA Regulations (2012)</b>	Provides a list of listed activities that may not be undertaken without environmental clearance	Ministry of Environment, Forestry and Tourism (Office of the Environmental Commissioner)	An Environmental Clearance will be required before project Commences.
<b>Water Act 54 of 1956</b>	Control of disposal of sewage, the purification of effluent, the prevention of surface and groundwater pollution, and the sustainable use of water resources.	Ministry of Agriculture, Water and Forestry (Department of Water Affairs)	The sewage disposal system to be constructed at the lodge must adhere to the provisions of this Act.
<b>The Water Resources Act 24 of 2004</b>	Control of disposal of sewage, the purification of effluent, the prevention of surface and groundwater pollution, and the sustainable use of water resources.	Ministry of Agriculture, Water and Forestry (Department of Water Affairs)	Ministry of Agriculture, Water and Forestry should be consulted before any on-site wastewater treatment facility is installed.



<b>Forestry Act No 27 of 2004</b>	The Act affords protection to certain indigenous plant species.	Ministry of Environment, Forestry and Tourism (Directorate of Forestry)	A permit is required before any protected plants are removed. Some protected tree species have been observed at the site. The permit for removal can be obtained from the Directorate of Forestry in Rundu.
<b>Nature Conservation Ordinance no. 4 of 1975</b>	Chapter 6 provides for legislation regarding the protection of indigenous plants	Ministry of Environment, Forestry and Tourism	Indigenous and protected plants have to be managed within the legal confines.
<b>Soil Conservation Act No 76 of 1969</b>	Combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources	Ministry of Agriculture, Water and Land Reform	The site of the two erven is especially prone to soil erosion. The proponent should ensure that soil erosion and soil pollution is avoided during construction and operation.
<b>Atmospheric Pollution Prevention Ordinance No 45 of 1965</b>	Part II - control of noxious or offensive gases, Part III - atmospheric pollution by smoke, Part IV - dust control, and Part V - air pollution by fumes emitted by vehicles.	Ministry of Health and Social Services	The development should consider the provisions outlined in the ordinance.
<b>Hazardous Substance Ordinance 14 of 1974</b>	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or	Ministry of Health and Social Services	The handling, usage and storage of hazardous substances on site should be carefully controlled according to this Ordinance.

	dumping of such substances; and to provide for matters connected therewith.		
<b>Urban and Regional Planning Act No. 5 of 2018</b>	Chapter 7 deals with the Subdivision or Consolidation of Land.	Ministry of Urban and Rural Development	The development must comply with the provision of the act.
<b>Local Authorities Act No. 23 of 1992</b>	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	Ministry of Urban and Rural Development	The development has to comply with provisions of the Local Authorities Act.
<b>The Labour Act of 1992</b>	Employees are subject to the terms of the Labour Act. The act also contains the Health and Safety Regulations.	Ministry of Labour, Industrial Relation and Employment Creation.	Given the employment opportunities presented by the expansion of the lodge infrastructure, compliance with the labour law is essential.
<b>Public and Environmental Health Act of 2015</b>	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted infections; water and food supplies; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979)	Ministry of Health and Social Services	Contractors and users of the proposed development are to comply with these legal requirements.
<b>National Heritage Act, 2004 (Act N0.27 of 2004)</b>	This Act calls for the protection, conservation and registration of places and objects of heritage significance.	National Heritage Council of Namibia	Even though the scoping exercise did not discover any archaeological material on the site, should there be any such discovery (e.g. graves) the National Heritage Council should be informed immediately.
<b>National Tourism Policy of 2008</b>	This policy stipulates that all tourism developments should be within the carrying capacity of an area and that the carrying	Ministry of Environment and Tourism	The capacity of the lodge should take the carrying capacity of the receiving environment into consideration.

	capacity be defined by environmental limits	(Directorate of Tourism)	
<b>Atmospheric Pollution Prevention Ordinance (1976)</b>	This Ordinance generally provides for the prevention of the pollution of the atmosphere. Part IV of this ordinance deals with dust control.	Ministry of Environment and Tourism.	This Ordinance requires that any person carrying out industrial activities which is liable to cause a nuisance to persons residing in the vicinity or to cause dust pollution to the atmosphere, shall adopt the best practicable means to prevent such dust from becoming dispersed and causing a nuisance. Activities at the lodge construction site such as excavation and land clearing need to properly controlled to ensure dust is not a nuisance.

## **5. ENVIRONMENTAL MANAGEMENT PLAN**

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### **5.1 EMP ADMINISTRATION**

In order to successfully implement the provisions of this EMP, there is a strong need to clearly outline the roles and responsibilities of all stakeholders. There is also a need for proponent to appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer (ECO) needs to be someone who has a basic understanding of EMP administration. Under the management actions, each action is allocated to a responsible entity to ensure that the specific action is managed and documented properly.

Furthermore, all key role players such as contractors who will be involved during the construction of facilities at lodge must be informed about the contents of this EMP and activities to be undertaken to mitigate the potential impacts identified.

## 5.2 TRAINING

All key role players such as the contractors who will be involved during the construction of the facilities at the lodge must be informed about the contents of this EMP through structured training programs, this can form part of the regular site meetings. It is recommended that the EMP forms part of the Terms of Reference to all contractors to be involved in the construction phase of the project.

## 5.3 GUIDELINES FOR CONSTRUCTION ACTIVITIES

Construction activities even though it will be on a small scale for this project can impact the environment negatively if it is not properly managed. The table below subscribe some general rules that can be given to the site contractor to minimize their impact on the environment.

General housekeeping to be used by the construction team

ASPECT	GENERAL RULES
<b>Roads and Vehicles used for construction</b>	<ul style="list-style-type: none"><li>• Vehicles shall not move on side slopes prone to erosion or sensitive to disturbance without specific approved management measures.</li></ul>
<b>Workshops</b>	<ul style="list-style-type: none"><li>• Temporary workshops provided on site shall be properly constructed and equipped so as to contain and prevent any form of contamination or pollution of soil and water that may arise from vehicle maintenance, servicing, parking and fuelling activities.</li><li>• All hydrocarbons – polluted parts such as oil filters shall be stored in closed containers and disposed of as oily waste responsibly.</li><li>• All solvents, paint or other chemical containers shall not be disposed of as general or domestic waste, but must be collected on site and disposed of to a licensed hazardous waste site.</li></ul>
<b>Material Storage</b>	<ul style="list-style-type: none"><li>• Any material capable of causing pollution, discharged to the environment through water or air shall be stored in proper containers or covered facilities.</li><li>• Storage of hazardous or flammable materials, including explosives if applicable, shall be strictly in accordance with the appropriate risk and fire prevention standards.</li></ul>
<b>Fuel Storage</b>	<ul style="list-style-type: none"><li>• Temporary fuel storage facilities erected on site shall comply fully with the relevant specifications for storage and handling of petroleum products.</li><li>• Temporary fuel storage tanks and the fuel dispensing area shall be placed on a concrete slab or similar and approved impervious material must be provided with</li></ul>

	bund walls of the prescribed height and have proper collection sumps for containment and removal of any spillage or effluent from within the containment area.
<b>Rehabilitation</b>	<ul style="list-style-type: none"> <li>• All disturbed areas shall be repaired and rehabilitated to the satisfaction of the Project Manager and ECO.</li> <li>• All temporary structures and facilities shall be properly and safely decommissioned and removed from site once all construction activity associated with such facilities has ceased. Closure, decommissioning and rehabilitation shall extend to removing any residual pollution or sources of pollution.</li> </ul>
<b>Training and Awareness</b>	All site staff shall be made formally aware of the contents of this EMP and its conditions.

#### 5.4 MANAGEMENT ACTIONS OF ENVIRONMENTAL ASPECTS – CONSTRUCTION PHASE

- **Noise and vibrations**

<b>DESCRIPTION</b>	Construction activities are associated with noise and vibrations generated by the construction machineries and vehicles.
<b>MITIGATION MEASURES</b>	<ul style="list-style-type: none"> <li>• All workers on site must be equipped with ear plugs to be used when the noise becomes unbearable.</li> <li>• Switch off machines that are not used.</li> <li>• construction activities which known to generate vibration should be scheduled for day periods and not at night.</li> <li>• Duration of vibration should be kept as short as possible.</li> <li>• Proper maintainance including routine servicing of equipments.</li> </ul>
<b>MONITORING</b>	Monitoring and measurement of noise and vibration impacts in the surrounding areas as per law or best available standards.
<b>RESPONSIBLE PARTY</b>	Site Manager/ Safety Officer

- **Disturbance of natural slope and clearing of vegetation**

<b>DESCRIPTION</b>	The construction on the two erven will involve the clearing of some areas to make way for the proposed lodge facilities and associated infrastructure. The removal of vegetation and disturbance to the natural slope can facilitate soil erosion if not done properly. This area of Rundu slopes towards the Kavango River. The combination of the slope and sandy soils makes it very prone to soil erosion.
<b>MITIGATION MEASURES</b>	<ul style="list-style-type: none"> <li>• All infrastructure should be constructed in such a way that it does not promote erosion especially on steeper slopes.</li> </ul>

	<ul style="list-style-type: none"> <li>• Steep slopes should be strengthened with retaining walls. This method has been used at the old part of the lodge.</li> <li>• Big trees on site should be incorporated in the landscaping as much as possible.</li> <li>• Indigenous vegetation should be used in the landscaping of the lodge to promote biodiversity.</li> </ul>
<b>MONITORING</b>	Regular visual inspection
<b>RESPONSIBLE PARTY</b>	Site Manager and ECO

- **Pollution from construction activities**

<b>DESCRIPTION</b>	There are various types of pollution associated with the construction phase. The most important one is probably chemical pollution from oil spills resulting from the handling of various machineries used during the construction phase. Other sources of pollution include building rubble and empty bags and containers. Construction workers can also pollute the surrounding environs if they are not provided with adequate toilet facilities.
<b>MITIGATION MEASURES</b>	<ul style="list-style-type: none"> <li>• Ensure that all waste from construction activities is stored and contained in designated containers and transported to Rundu Waste Disposal Site for proper disposal.</li> <li>• Adequate mobile toilets must be provided at the construction site for the use of the workers.</li> </ul>
<b>MONITORING</b>	Regular visual inspection
<b>RESPONSIBLE PARTY</b>	Site Manager and ECO

- **Dust**

<b>DESCRIPTION</b>	Construction activities are generally associated with dust as the substrate is loosened during construction. Activities such as the clearing of vegetation and levelling of land will slightly affect the air quality. This will especially be an issue during windy days. Dust can affect the health of the construction workers and visitors to the existing part of the lodge.
<b>MITIGATION MEASURES</b>	<ul style="list-style-type: none"> <li>• Equip all the workers exposed to dust with dust masks</li> <li>• Spray the areas that are most affected to minimize dust.</li> </ul>



	<ul style="list-style-type: none"> <li>Minimize activities that can generate dust during windy days.</li> </ul>
<b>MONITORING</b>	Regular visual inspection
<b>RESPONSIBLE PARTY</b>	Site Manager and ECO

- Visual and sense of place impacts**

<b>DESCRIPTION</b>	The area where erf 1528 & 1530 is located in an area known for its pristine natural surroundings and beautiful views of the Kavango River. It is therefore important to ensure that any facilities developed here blends in well with the natural surroundings.
<b>MITIGATION MEASURES</b>	Blending the built structures with the natural surrounding will maintain the natural aesthetic value of the area e.g. tent material should be of earth colours instead of bright colours.
<b>MONITORING</b>	Visual inspection
<b>RESPONSIBLE PARTY</b>	Site Manager and ECO

- Employment opportunities**

<b>DESCRIPTION</b>	Establish recruitment policy that gives first priority to the locals.
<b>MITIGATION MEASURES</b>	To further enhance the socio-economic benefits of the surrounding communities from the development, the Project Manager should make it mandatory to all contractors that all unskilled work should be given to the locals.
<b>MONITORING</b>	Ensure adherence to recruitment policy.
<b>RESPONSIBLE PARTY</b>	Site Manager

## 5.5 MANAGEMENT ACTIONS OF ENVIRONMENTAL ASPECTS – OPERATIONAL PHASE

- **Pollution from operational activities**

<b>DESCRIPTION</b>	The operation of a lodge produces various types of waste. Common types of waste include solid waste (e.g. papers, plastics and cans) and sewage from toilet facilities. Solid waste will be blown to other parts of the lodge such as the nearby Kavango River and associated flood plains if not managed properly.
<b>MITIGATION MEASURES</b>	<ul style="list-style-type: none"> <li>• Institute and maintain a waste management system.</li> </ul>
<b>MONITORING</b>	Regular inspection and appropriate operational policies.
<b>RESPONSIBLE PARTY</b>	Project Manager

- **Job opportunities**

<b>DESCRIPTION</b>	The current permanent staff complement (28 people) of the Kavango River Lodge will increased once the expansion project is completed. This will provide job opportunities for some people in the hospitality industry.
<b>MITIGATION MEASURES</b>	To further enhance the socio-economic benefits of the surrounding communities from the development, the Project Manager should make it mandatory to all contractors that all unskilled work should be given to the locals.
<b>MONITORING</b>	Ensure adherence to recruitment policy.
<b>RESPONSIBLE PARTY</b>	Project Manager