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Environmental and Social Management Plan

GONDWANA ETOSHA KING NEHALE LODGE

OSHIKOTO REGION, NAMIBIA

JANUARY 2019

PREPARED FOR



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DEFINITIONS AND ABBREVIATIONS

EAP	Environmental Assessment Practitioner
ECC	Environmental Compliance Consultancy
EMA	Environmental Management Act
ENP	Etosha National Park
ESMP	Environmental and Social Management Plan
I&AP	Interested and affected parties
LDPE	Low Density Polyethylene Pipe
PPE	Personnel Protective Equipment
PLP	Preformed Line Products

1. INTRODUCTION

1.1. PROJECT BACKGROUND

The proposed development is a forty (40) room lodge in the King Nehale Conservancy in the Oshikoto region. Gondwana Collection Namibia Pty Ltd has secured a N\$75 million financial investment for the lodge development. The proposed development seeks to offer up-market accommodation with a 4-5-star rating. The new development will expose tourists to the cultural experience in north central Namibia, this area has significant tourism potential and the proposed development will generate income for the indigenous community. Agreements have been signed, finances are in place and contractors have been appointed for the lodge construction. The newly formed venture is designed to further spread financial, social and environmental benefits that eco-tourism can bring to previously disenfranchised communities.



Figure 1 – Proposed Project Location

1.2. ENVIRONMENTAL REGULATORY REQUIREMENTS

The proposed project has been identified to trigger listed activities as set out in the Environmental Management Act, 2007 (Act No. 7 of 2007) and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) gazetted under the Environmental Management Act, (EMA), 2007 (Act No. 7 of 2007) (referred to herein as the EIA Regulations). As a Listed Activity an application for an Environmental Clearance Certificate is required. An Environmental Scoping Report and Environmental and Social Management Plan (ESMP) are required as part of the Environmental Clearance Certificate application, as well as to support the decision-making process. This report presents the ESMP and has been undertaken in accordance with the requirements of the Environmental Management Act, 2007 and associated Regulations.

1.3. PURPOSE AND SCOPE OF THIS REPORT

The purpose of this ESMP is to provide a management framework for the planning and implementation of the construction and operation activities for the proposed project so that potential environmental and social impacts are mitigated, prevented and minimised as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled. This ESMP also presents protocols and procedures, and roles and responsibilities to ensure the management arrangements are appropriately and effectively implemented.

This ESMP forms an appendix to the Environmental Scoping Report and has been based on the findings of the assessment; therefore, the Environmental Scoping Report should be referred to for further information on the proposed project, assessment methodology, applicable legislation and assessment findings.

This ESMP is a live document and shall be reviewed at predetermined intervals, and/or updated when the scope of works alters, or when further data and information can be added. All personnel working on the project will be legally required to comply with the standards set out in this ESMP.

The scope of this ESMP includes the duration of the project life: construction, operation and decommissioning. The proponent shall be responsible for each phase of the project and the implementation of this ESMP. The current understanding of each phase is as follows:

- **Construction phase:** To commence end of 2018/ early 2019. The new development will consist of the following;
 - Thirty- two (32) Guest rooms, each with an en-suite bathroom, external shower, private patio, splash pool
 - Eight (8) family units with en-suite bathrooms, external showers, splash pools and private patio's
 - Staff housing for up to forty staff, managers and supervisors
 - Powerline to import electricity, approximately 1.3km
 - Water pipeline to import fresh water from the Namwater supply waterline
 - Room for backup generator
 - Entrance road, 1km
 - Water storage tanks, and
 - Sewage recycling plant.
- **Operations phase:** Once operational, 40 permanent employment opportunities will be available.

1.4. MANAGEMENT OF THIS ESMP

The proponent (Gondwana Collection Namibia (Pty) Ltd) will hold the Environmental Clearance Certificate for the proposed project and shall be responsible for the implementation and management of this ESMP. Prior to the construction works commencing, this ESMP shall be reviewed, amended as required and approved ready for implementation. The implementation and management of this ESMP and thus the monitoring of compliance shall be undertaken through daily duties and activities and monthly inspections.

This ESMP shall be circulated to all contractors and shall be made available on the Environmental Compliance Consultancy's website.

1.5. LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP

This ESMP does not include measures for compliance with statutory occupational health and safety requirements.

Where there is any conflict between the provisions of this ESMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines and relevant laws), the contract and statutory requirements are to take precedence.

The information contained in this ESMP has been based on the project description as provided in the Environmental Scoping Report. Where the design or construction methods alter, this ESMP may require updating and potential further assessment undertaken.

1.6. ENVIRONMENTAL CONSULTANCY

Environmental Compliance Consultancy (ECC), a Namibian consultancy registration number 2013/11401, has prepared this ESMP on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in the public and private sector. ECC is independent to the proponent and has no vested or financial interest in the proposed project.

1.7. STRUCTURE OF THIS ESMP

The following structure has been adopted for this Report:

- Chapter 1 – Introduction
- Chapter 2 – Project Management and Personnel
- Chapter 3 – Communications and Training
- Chapter 4 – Reporting, Compliance and Enforcement
- Chapter 5 – Environmental and Social Management
- Chapter 6 – Implementation of the ESMP

2. PROJECT MANAGEMENT AND PERSONNEL

2.1. GONDWANA COLLECTION NAMIBIA PTY LTD

The proponent shall provide a Project Team to oversee and undertake the preparation and construction works, which shall be composed of the proponent's personnel and contractors. A nominated role shall be identified to ensure maintenance of the proposed project is undertaken through the operations phase and prior to the project moving into the decommissioning / rehabilitation phase.

2.2. ORGANISATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES

The proponent shall be responsible for:

- Ensuring all members of the Project Team, including contractors, comply with the procedures set out in this ESMP
- 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.

Contractors shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this ESMP, and meet the responsibilities listed above.

The key personnel and environmental responsibilities of each role are presented in Table 1.

Table 1 – Key Roles and Responsibilities

ROLE	RESPONSIBILITY & DUTIES
Proponent	<ul style="list-style-type: none"> - Overall responsibility for the implementation and management of this ESMP. - Ensure environmental policy is communicated to all personnel throughout the proposed project. - Responsible for providing the required resources (including financial and technical) to complete the required tasks.
Project Manager	<p>Responsible for ensuring compliance with this ESMP including overseeing the construction works, day to day activities during operations, and routine and non-routine maintenance works during operations, as well as the decommissioning of the development.</p> <ul style="list-style-type: none"> - Ensuring all personnel are aware of the commitments made in this EMP and any other relevant regulatory requirements applicable to the project; - Responsible for the management, maintenance and revisions of this ESMP Ensuring adequate resources are made available for implementation of this ESMP; - Maintain the community issues and concern register, and keep records of complaints. - Ensuring all employees and contractors participate in a Site Induction process prior to commencing work on the project; - Maintain up to date register of employees who have completed the Site Induction; and - Provisioning of environmental awareness/management training and inductions for all employees; - Ensuring that best environmental practice is undertaken throughout the

ROLE	RESPONSIBILITY & DUTIES
	duration of the project; – Report any non-compliance or accidents to the Regulatory Authority.
Site Manager / Contractors	Appointed to manage the performance of the construction and operational maintenance activities. Responsible for the implementation of this ESMP and ensuring all activities are compliant with this ESMP, as well as: <ul style="list-style-type: none"> – Managing the preparation and implementation of method statements for certain activities, and ensuring the Environment Manager reviews all method statements and the relevant environmental protocols are incorporated; – Reporting any non-compliance or accidents to the PM and Environment Manager; – Ensuring that all staff have attended a site induction session before the commencement of any work on site and that they are adequately informed of the requirements of this ESMP; – Ensuring that all contract workers, sub-contractors and visitors to the site are conversant with the requirements of this ESMP, relevant to their roles on site and adhere to this ESMP at all times; and – Receiving, responding to and recording complaints.
Employees / Contractor employees	Responsible for being compliant with this ESMP throughout the construction works, in addition to: <ul style="list-style-type: none"> – Ensuring they have undertaken a site induction and are conversant with the requirements of this ESMP; – Ensuring appropriate briefings for certain activities have been provided and fully understood; – Adherence to this ESMP at all times; – Reporting of any operations and conditions that deviate from the ESMP or any non-compliant issues or accidents to the Environment Manager, and Site Manager/Contractor.
Lodge Manager	Responsible for ensuring compliance with this ESMP throughout the operational phase, in addition to: <ul style="list-style-type: none"> – Ensuring employees understand and comply with the requirements of this ESMP – Ensuring appropriate briefings for certain activities has been provided

2.3. CONTRACTORS

Any contractors hired during the construction works or maintenance activities during the operational phase shall be compliant with this ESMP, and shall be responsible for the following:

- Undertaking activities in accordance with this ESMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements
- Implementing appropriate environmental and safety management measures
- Reporting of environmental issues, including actual or potential environmental incidents and hazards, to the Site Manager and/or PM, and
- Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported by employees and subcontractors.

2.4.EMPLOYMENT

The proponent and all contractors shall comply with the requirements of the Republic of Namibia Regulations for Labour, Health and Safety, and any amendments to these regulations. The following shall be complied with:

- In liaison with local government and community authorities, the proponent shall ensure that local people have access to information about job opportunities and are considered first for construction and maintenance contract employment positions
- The number of job opportunities shall be made known together with the associated skills and qualifications. The maximum length of time the job is likely to last for shall be clearly indicated
- Foreign workers with no proof of permanent legal residence shall not be hired, and
- Every effort shall be made to recruit from the pool of unemployed workers living in the local area.
- A list of all staff employed during construction and operations is shared with the Deputy Director of Etosha National Park (ENP) as well as MET's Intelligence and Investigation Unit (IIU). Any changes to this list are shared within 72 hours. This list should include names, addresses, cell numbers and copies of identity documents.

3. COMMUNICATIONS AND TRAINING

3.1. COMMUNICATIONS

During construction, the PM and Site Manager shall communicate site wide environmental issues to the Project Team through the following means (as and when required):

- Site induction;
- Audits and site inspections;
- Toolbox talks, including instruction on incident response procedures; and
- Key project specific environmental issues briefings.

This ESMP shall be distributed to the Construction Project Team, including contractors, to ensure that the environmental requirements are communicated effectively. Key activities and environmentally sensitive operations shall also be briefed to workers and contractors.

During the construction phase, regular communications between the management team shall include discussing any complaints received and actions to resolve them; any inspections, audits or non-conformance with this ESMP; and any objectives or target achievements.

3.2. COMPLAINTS HANDLING AND RECORDING

Any complaints received verbally by any personnel on the project site shall be recorded by the receiver, including the name and contact details of the complainant, date and time of the complaint, and the nature of the complaint. The information shall be given to the Project Manager who is overall responsible for the management of complaints and will provide a written response to the complainant. The PM shall inform the Site Manager of issues, concerns or complaints.

The PM shall maintain a complaint's register that will detail the name and contact details of the complainant, date and time of the complaint, nature of complaint, action taken to resolve issues, and date of complaint handover. The PM shall be responsible for nominating the correct personnel to coordinate and resolve the issue.

The workforce shall be informed about the complaints register, its location and the person responsible, in order to refer local residents or the general public who wish to lodge a complaint. The complainant shall be informed in writing of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The complaints register shall be kept for the duration of the project and will be available for government or public review upon request.

3.3. TRAINING AND AWARENESS

All personnel working on the project shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training and experience.

All personnel involved in the project shall be inducted to the site with specific environment and social awareness training, and health and safety issues. The environment and social awareness training shall ensure that personnel are familiar with the principles of this ESMP, the environment and social aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures.

The PM shall ensure a register of completed training is maintained.

The Site Induction should include, but not limited to the following:

- A general site-specific induction that outlines:
 - o What is meant by “environment” and “social”;
 - o Why the environment needs to be protected and conserved;
 - o How construction activities can impact on the environment;
 - o What can be done to mitigate against such impacts;
- The inductee’s role and responsibilities with respect to implementing the ESMP;
- The site environmental rules;
- Details of how to deal with, and who to contact if environmental problems should they occur;
- Basic vegetation clearing principals and species ID sheets;
- The potential consequences of non-compliance with this ESMP and relevant statutory requirements; and
- The role of responsible people for the project.

4. REPORTING, COMPLIANCE AND ENFORCEMENT

4.1. ENVIRONMENTAL PERFORMANCE MANAGEMENT

4.1.1. SUMMARY OF ENVIRONMENTAL RISKS AND MITIGATION MEASURES

Chapter 5 provides a Register of Environmental Risks and Issues, which identifies mitigation and monitoring measures, as well as roles responsible. This register will be subject to regular review by the PM and updated when necessary.

The PM and Site Manager will use this register to undertake monthly inspections (see next section) to ensure the project is compliant with this ESMP.

4.1.2. CONSTRUCTION: ENVIRONMENTAL INSPECTIONS & COMPLIANCE MONITORING

4.1.2.1. DAILY COMPLIANCE MONITORING

A copy of this ESMP shall be on site throughout the construction works and shall be available upon request. It is the responsibility of the PM and Site Manager to ensure this ESMP is complied with through their daily roles. Daily inspections will be undertaken by the Site Manager (or nominated site supervisor). Any environmental problems or risks identified shall be notified to the PM and actioned as soon as is reasonably practicable.

4.1.2.2. MONTHLY COMPLIANCE MONITORING

Monthly inspections shall be undertaken by the Site Manager to check that the standards and procedures set out in this ESMP are being complied with and pollution control measures are in place and working correctly. Any non-conformance shall be recorded, including the following details: brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.1.3. OPERATIONS: ENVIRONMENTAL INSPECTIONS & COMPLIANCE MONITORING

Annual inspections of the sewage treatment plant will be managed and undertaken by the PM. All infrastructure will be inspected to ensure plant and equipment are operating as per specification; no damage has been caused; and no leaks or spills have occurred. Any non-conformance shall be recorded, including the following details: brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.2. REPORTING

There shall be a requirement to ensure that any incident or non-compliance, including any environmental issue, failure of plant and equipment that perform an environmental function or accident, is reported to the PM.

4.3. NON-COMPLIANCE

4.3.1. NON-COMPLIANCE EVENT

Where it has been identified that works are not compliant with this ESMP, the PM shall employ corrective actions so that the works return to being compliant as soon as possible. In instances where the requirements of the ESMP are not upheld, a Non-Conformance and Corrective Action Notice shall be produced. The Notice shall be generated during the inspections and the PM shall be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

A non-compliance event / situation, for example, is considered if:

- There is evidence of contravention of this ESMP and associated indicators or objectives
- The Site Manager and/or Contractor have failed to comply with corrective or other instructions issued by the PM or qualified authority; or
- The Site Manager and/or Contractor fail to respond to complaints from the public.

Works shall be stopped in the event of a non-compliance, until corrective action(s) has been completed.

4.3.2. DISCIPLINARY ACTION

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

- Fines / penalties
- Legal action
- Monetary penalties imposed by the proponent on the contractor
- Withdrawal of license/s, and
- Suspension of work.

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

5. ENVIRONMENTAL AND SOCIAL MANAGEMENT

5.1. OBJECTIVES AND TARGETS

Environmental objectives for the project are as follows:

- Zero pollution incidents
- Minimise waste being sent to the landfill
- Protect local flora and fauna, and
- Use natural resources effectively and efficiently.

5.2. REGISTER OF ENVIRONMENTAL RISKS AND ISSUES

An environmental review of the proposed project has been completed to identify all the commitments and agreements made within the Environmental Scoping Report. From this, a schedule of environmental commitments and risks has been produced (Tables 2 & 3), which details deliverables including measures identified for the prevention of pollution or damage to the environment during the construction phase.

Table 2 - Construction: Environmental Risks and Issues, and Mitigation and Monitoring Measures

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Soil	<ul style="list-style-type: none"> - Soil pollution - Soil erosion - Loss of topsoil - Sand removal 	<ul style="list-style-type: none"> - A 'good housekeeping' policy shall be adopted across the construction and maintenance working areas - Refueling shall be undertaken in a designated area - Under no circumstances should oil or other substances be disposed of on-site - Ensure minimal vegetation clearance and exposure of soils through selecting the shortest route for access track construction and incorporating design elements which reduce the need for vegetation clearance - In areas where the risk of erosion is evident, measures may be necessary to prevent erosion, - Minimise the disturbance and removal of topsoil, and - Sand will be extracted from an existing borrow pit of the Omuthiya Town Council 	<ul style="list-style-type: none"> - Daily visual inspection of operations 	<ul style="list-style-type: none"> - Project Manager
Surface and ground water	<ul style="list-style-type: none"> - Pollution of ground/surface water - Stormwater runoff 	<ul style="list-style-type: none"> - Hazardous substances should be stored away from any water bodies - Amenities (e.g. portable toilets) shall be provided and set up in a suitable location (if required) - Regular maintenance of vehicles, equipment and machinery - Spilled oil should be treated as hazardous waste - Drip trays for trucks to avoid oil leakages and to be used when refueling - Raw sewage disposal on or near the site is not allowed - Protect the area from erosion due to storm water drainage - Collect and use storm water whenever possible - Sewage treatment plant should be constructed such that it is elevated from the ground to eliminate the risk of breach of containment during rainy seasons, and - Spill containment apparatus must be kept on site to minimise the scale of impact should there be an accident 	<ul style="list-style-type: none"> - Daily inspection of operations 	<ul style="list-style-type: none"> - Project Manager - Site Manager

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	<ul style="list-style-type: none"> - Loss of containment of fuel leading to ground or groundwater contamination. 	<p><u>Safe Delivery and handling:</u></p> <ul style="list-style-type: none"> - Training employees and Toolbox Talks. - Good housekeeping across the site - Fuel is handled with care - Spill kits to be at designated areas across site or available for use during refueling, fuel delivery or use. Absorption material should be available and at hand. Where sawdust is used it should be cleaned up immediately and not left for long periods as this poses a fire hazard - Any major spill is reported to the PM once containment has been achieved - Plant and equipment to be well maintained and serviced regularly, and - In the field, use of hydrocarbons under 200 liters can be used for mobile refueling or servicing. <p><u>Storage:</u></p> <ul style="list-style-type: none"> - Overhead tanks to be secured with a non-porous floor and a bund wall built around the tank that can store 110% of the volume of the tank(s) - Underground storage tanks to be avoided - All tanks to be stored on a non-porous floor and bunded walls. - Bund to be capable of storing at least 110% of the volume of the tank - All containers to be suitable for use and not damaged - Stores and tanks are locked at all times, and - Stores are well ventilated <p><u>Refueling</u></p> <ul style="list-style-type: none"> - Drip tray to be used during refueling of vehicles and on a permeable surface where possible, and - A funnel should be available and used to avoid spillage during decanting <p><u>Wash Bays:</u></p> <ul style="list-style-type: none"> - Floors to be non-porous - All water from the wash bay should flow into an oil trap. - Oil trap should, if possible, be located close to the wash bay to ensure maximum efficiency - Other water (e.g. storm water) should be diverted away from the wash bay, i.e. should not be allowed to flow into the oil trap. - Silt trap should be cleaned regularly 		

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<ul style="list-style-type: none"> - Oil in the first tank should be skimmed off regularly and disposed of (recycled) - Outflow from oil trap should be free of any oil. Check to see if there are any signs of oil at an outlet. - Vehicles (trucks, skidders, bell loaders etc.) shall ONLY be washed in the wash bay, and - Any accidental spillages of fuels and oils, or other hazardous substances, shall be cleaned up immediately and be reported to the Site Manager 		
Air quality	<ul style="list-style-type: none"> - Dust - Aerial emissions 	<ul style="list-style-type: none"> - Use existing access roads and tracks - Restricted speeds (<30km/hr) - Implement dust suppression techniques during windy periods - Provide protective masks and eye glasses to employees in dusty working environments - Exhaust emission control devices should be installed on machinery and/or vehicles where practical, and - Machinery and vehicles should be properly maintained to avoid or limit the release of harmful gases 	<ul style="list-style-type: none"> - Maintenance to be carried out as required - Daily observations 	<ul style="list-style-type: none"> - Project Manager - Site Manager
Biodiversity - Flora and fauna	<ul style="list-style-type: none"> - Alien species 	<ul style="list-style-type: none"> - Ensure the correct removal of alien invasive vegetation from the proposed development area and prevent the establishment and spread of alien invasive plants due to the development activities. - Ensure the potential introduction and spread of alien plants is prevented, and - All project or earth moving equipment must have an internal weed and seed inspection completed prior to equipment being used on site 	<ul style="list-style-type: none"> - Daily observations 	<ul style="list-style-type: none"> - Project Manager - Site Manager - Employees
	<ul style="list-style-type: none"> - Impact on vegetation - Impact on fauna activity - Powerline interactions (bird-powerline) 	<ul style="list-style-type: none"> - Use existing tracks where possible. - Minimise the disturbance and removal of topsoil - Elevate buildings to avoid removal of grasses/vegetation and minimise disturbance to soil - Identify and mark important tree species and clearly highlight to construction workers so that they are avoided - Select site location to determine the shortest route in order to minimize 		

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	interactions)	earthworks and vegetation clearing. – Apply speed restrictions (<30km/hr) – Avoid off road driving, and – Apply design principles to avoid bird and powerline interactions. – The preferred mitigation for the potential threats to birds is the use of a PV solar plant – The entire above ground powerline should be marked, apply proper procedures to avoid bird-powerline interactions, such as; line marking devices, The recommended marking device is a Double Loop Bird Flight Diverter, fitted to the top conductor at 5-10 m intervals, alternating black and white. Alternatively (or in combination) the Viper Live Bird Flapper could be considered. Both devices are manufactured by Preformed Line Products (PLP) – Mitigation measures for entire above ground powerline: <ul style="list-style-type: none"> ○ The earthing on wooden power line poles should stop 300 mm below the lowest phase to provide an “air space safety gap”, in order to reduce electrocution risk; this procedure is known as "gapping". ○ Transformer/switchgear structures should be designed in such a way that they are not attractive as bird perches/nesting sites; selected live components should be insulated (e.g. using PVC piping or low-density polyethylene pipe [LDPE]; contact NamPower for advice). ○ On strain structures where "jumper" wires are used in a horizontal configuration, the two outer jumpers should be suspended below the cross arm and the third/centre jumper should be insulated or offset; or all jumpers insulated. 		
	– Impact on biodiversity security	– A list of all staff employed during construction and operations is shared with the Deputy Director of ENP and MET’s Intelligence and the Investigation Unit (IIU) – Any changes to this list are shared within 72 hours – This list should include names, addresses, cell numbers and copies of employee ID’s	– Daily observations	– Project Manager

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<ul style="list-style-type: none"> - A vetting process should be undertaken, with special attention given to the tour guides to ensure well trained and reliable guides are elected to work at the establishment - Regular awareness training must be conducted for all staff. This training should not be confined to the “can not do” activities but also the reasons and impacts of such activities - Strict rules should be implemented that no sharing of rhino sittings may be shared via verbal exchanges, geographical tagging of photographs or any other means, and - An agreed security plan must be in place which is to be shared with the Deputy Director of ENP and MET’s Intelligence and the Investigation Unit (IIU). 		
Waste management	<ul style="list-style-type: none"> - Visual impacts - Waste pollution 	<ul style="list-style-type: none"> - Training and Toolbox Talks. - Good housekeeping across site. - All working areas shall apply good house-keeping. - Marked bins should be provided across the site - Raw sewage must be adequately managed - Littering by the construction workers shall not be allowed, and - If portable toilets are used, they should be emptied regularly 	<ul style="list-style-type: none"> - Daily observations - Weekly checks 	<ul style="list-style-type: none"> - Project Manager - Employees
Noise	<ul style="list-style-type: none"> - Disturbance to wildlife - Nuisance to nearby communities 	<p>Noise should shall be minimised as much as possible during construction works. The following measures shall be applied:</p> <ul style="list-style-type: none"> - Limit working hours to 7am to 6pm weekdays and 7am until 1pm on Saturday; - Regular maintenance and servicing of vehicles, plant and equipment; and - All equipment to be shut down or throttled back between periods of use. - Noise suppression measures must be applied to construction equipment where practical, and - Hearing protection should be provided to employees operating equipment which produces excessive noise, and - Conduct steel fabrication off-site where possible/ practical to eliminate noise on site, for example, steel fabrication. 	<ul style="list-style-type: none"> - Daily observations 	<ul style="list-style-type: none"> - Project Manager - Employees
Light	<ul style="list-style-type: none"> - Light pollution 	<ul style="list-style-type: none"> - Light suppression techniques must be implemented during the construction 	<ul style="list-style-type: none"> - Daily observations 	<ul style="list-style-type: none"> - Project

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		phase. – Lights on outside walkways should be projected onto the walkways – Limit working hours to 7 am to 6 pm weekdays and 7 am until 1 pm on Saturday;		Manager
Social	– Employment creation – Skills development – Potential risk for social interactions and transmission of infectious diseases	– Maximise local employment and local business opportunities to promote and improve the local economy – Enhance the use of local labour and local skills as far as reasonably possible. Where the required skills do not occur locally, and where appropriate and applicable, ensure that relevant local individuals are trained, and – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible. – Educate/inform employees on health and safety issues	– NA	– NA
Heritage	– Disruption of heritage sites	Discovery of unearthed archaeological remains to be uncovered, the following measures (chance find procedure) shall be applied: – Works to cease, area to be demarcated with appropriate tape by the site supervisor, and the Site Manager to be informed – Site Manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform the Environment and Social Manager with the GPS position if possible – If works cannot proceed without damage to findings, Site Manager to inform the Environmental Manager who will get in touch with an archaeologist who will provide advise – Environment and Social Manager / Archaeological Specialist to evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave in situ (depending on the nature and value of the remains) – Inform the police if the remains are human, and – Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as direct.	– Daily inspection	– Project Manager
Safety	– Accidents	– Any accidents or incidents should immediately be reported to the	– Daily inspections	– Project

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		Project manager. All incidents should be recorded in an incident register.		Manager

Table 3 - Operation: Environmental Risks and Issues, Mitigation and Monitoring Measures

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Water management	<ul style="list-style-type: none"> - Water saving - Ground water pollution 	<ul style="list-style-type: none"> - Use water saving devices where practical - Limit water wastage - Water storage tanks should be properly maintained - Sewage water must be adequately managed 	<ul style="list-style-type: none"> - Daily inspection of operations 	<ul style="list-style-type: none"> - Employees
Waste management	<ul style="list-style-type: none"> - Pollution 	<ul style="list-style-type: none"> - Training and Toolbox Talks. - Good housekeeping across site. - All working areas shall apply good house-keeping. - Implement the waste management hierarchy across site: Avoid, reuse, recycle, then disposal through burning or dump. - Waste storage facilities should be properly maintained - Waste storage areas shall be kept clean and tidy at all times - Sewage recycling plant must be adequately maintained and monitored. - Waste shall be removed on a regular basis to avoid pests and bad odours - Only combustible waste shall be burnt. Hazardous waste shall not be burnt. - If required, waste to be burnt shall be dry to reduce the amount of smoke and 	<ul style="list-style-type: none"> - Daily observations - Weekly inspections 	<ul style="list-style-type: none"> - Lodge Manager - Employees

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>increase combustion rate. Water buckets or other fire control / extinguish methods shall be at the fire pit. Burning takes place only on days when winds are light and blowing away from people. Waste is burned in manageable volumes, so the fire does not get out of control. The fire is started, attended and monitored at all times by authorized and qualified personnel. Employees undertaking burning activities shall remain at a safe distance upwind of the fire, and</p> <ul style="list-style-type: none"> – It is unlikely that hazardous material and wastes will be produced, however in the event that they do, they shall be managed in a safe and responsible manner so as to prevent contamination of soils, pollution of water and/or harm to people or animals as a result of the use of these materials. Hazardous and non-hazardous waste shall be stored separately at all times. 		
Fauna	<ul style="list-style-type: none"> – Animals on site – Powerline interactions (bird-powerline interactions) – 	<ul style="list-style-type: none"> – Have standard procedures in place to deal with animal siting's on the lodge property, maintain a log book on site to record wildlife sittings near lodge property, and – Should bird electrocutions take place, safe alternative perching areas/perching platforms may be provided, and 	<ul style="list-style-type: none"> – Daily observations 	<ul style="list-style-type: none"> – Lodge manager – Employees
Noise	<ul style="list-style-type: none"> – Disturbance to wildlife and nearby communities 	<ul style="list-style-type: none"> – Noise restrictions must be in place once the lodge becomes operational such as no loud music after 22:00, and – Game drives and self-drives in the conservancy must be conducted between dusk and dawn 	<ul style="list-style-type: none"> – Daily observations 	<ul style="list-style-type: none"> – Lodge Manager – Employees
Light	<ul style="list-style-type: none"> – Disturbance to wildlife and nearby communities 	<ul style="list-style-type: none"> – Night time light sources must be directed away from nearby communities 	<ul style="list-style-type: none"> – Daily observations 	<ul style="list-style-type: none"> – Lodge manager – Employees
Social	<ul style="list-style-type: none"> – Job creation – Skills development 	<ul style="list-style-type: none"> – Maximise local employment and local business opportunities to promote and improve the local economy. – Enhance the use of local labour and local skills as far as reasonably possible. Where the required skills do not occur locally, and where appropriate and applicable, ensure that relevant local individuals are trained, and – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible. 	<ul style="list-style-type: none"> – N/A 	<ul style="list-style-type: none"> – N/A
Safety	<ul style="list-style-type: none"> – Accidents/ 	<ul style="list-style-type: none"> – Speed limits must be in place on and around the lodge site, due to the occurrence of 	<ul style="list-style-type: none"> – Daily inspection 	<ul style="list-style-type: none"> – Lodge

ASPECT	POTENTIAL IMPACTS	MANAGEMENT/MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	incidents	wild animals		Manager – Employees

5.3. ENVIRONMENTAL EMERGENCY AND RESPONSE CONTACTS

The PM will be the primary contact person in the event of an environmental emergency. The PM has the authority and independence to request reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse environmental impact be anticipated.

In the event of an incident that requires the emergency services, the services that should be contacted are listed in Table 4.

Table 4 - Emergency Services contact telephone numbers

AMBULANCE (Ondangwa)	POLICE (Ondangwa)	FIRE BRIGADE (Tsumeb)	CLINIC (Omuhiya)
065 240 111	065 10111	067 221 004	065 244 30

For large-scale spills and other significant environmental incidents, the fire services shall be contacted as required and the Ministry of Environment and Tourism (MET) office informed of the incident (telephone +264 61 284 2111). All correspondence with MET should be undertaken by the PM.

For the clean-up of smaller spills, the relevant Material Safety Data Sheet (MSDS) should be obtained online and be consulted to determine the appropriate clean-up procedure. Basic spill response training will be provided as part of the site environmental induction, spill response equipment, including relevant MSDS copies, will be provided in areas where potentially environmentally hazardous chemicals may be used.

All environmental incidents, regardless of their size or significance, should be recorded and reported to either the PM.

6. IMPLEMENTATION OF THE ESMP

This ESMP:

- A. Has been prepared pursuant to a contract with the proponent;
- B. Has been prepared on the basis of information provided to ECC up to October 2018;
- C. Is for the sole use of the proponent, for the sole purpose of an ESMP;
- D. Must not be used (1) by any person other than the proponent or (2) for a purpose other than an EMP; and
- E. Must not be copied without the prior written permission of ECC.

ECC has prepared the EMP on the basis of information provided by the proponent, specialist reports and the Environmental Scoping Report