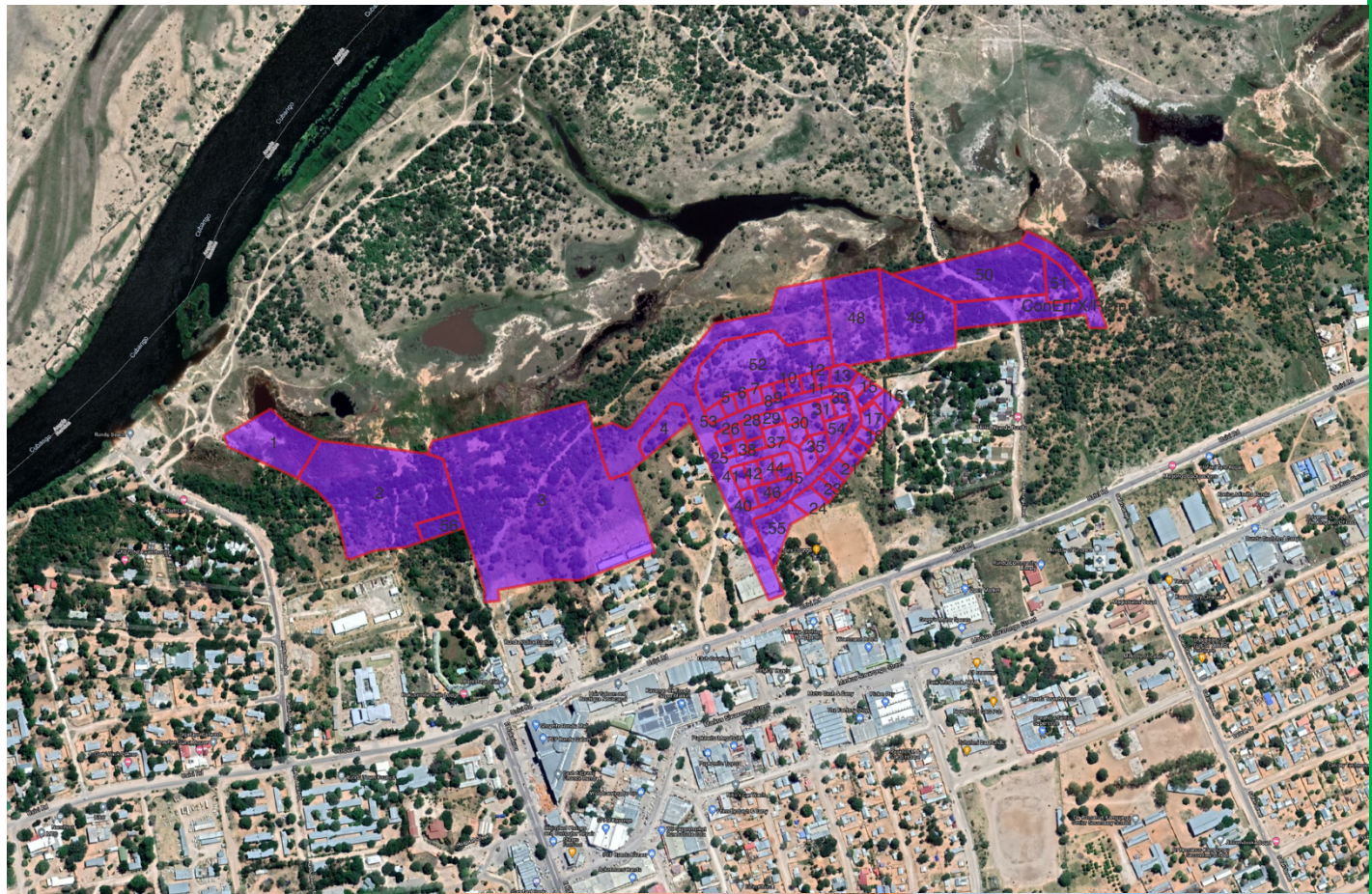


ENVIRONMENTAL IMPACT ASSESSMENT: SUBDIVISION OF CONSOLIDATED ERF X (INCORPORATED ERF X; ERVEN 1220/REM AND 1229) INTO 57 ERVEN AND REMAINDER, RUNDU EXTENSION 3 IN RUNDU, KAVANGO EAST REGION-NAMIBIA.



ENVIRONMENTAL MANAGEMENT PLAN(EMP)

DATE: JULY 2021



The Subdivision of Consolidated Erf X (Incorporated Erf X; Erven 1220/Rem And 1229) Into 57 Erven and Remainder, Rundu Extension 3 In Rundu, Kavango East Region-Namibia

Environmental Management Plan (EMP)

Environmental Scoping Report Prepared for Rundu Town council

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Definitions

TERMS	DEFINITION
BID	Background Information Document
EAP	Environmental Assessment Practitioners
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA (R)	Environmental Impact Assessment (Report)
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EMPr	Environmental Management Plan Report
GHG	Greenhouse Gasses
ISO	International Organization for Standardization
I&Aps	Interested and Affected Parties
MEFT: DEA	Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs
NHC	National Heritage Council
NEMA	Namibia Environmental Management Act
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

i. Purpose of This Environmental Management Plan

This Environmental Management Plan follows on environmental flaws associated with the proposed project, which were identified through the Environmental Scoping Report. A conscious decision was made based on the recommendations and guidelines by the Directorate of Environmental Affairs EIA guidelines in order to assess both significant and less significant environmental impacts proposed by the development. The developed Environmental Management Plan (EMP) for this proposed activity will have to be effectively implemented by the client, to ensure that adverse environmental impacts are not considered.

The framework within which this EMP is developed includes identifying various activities, their occurrence in the construction and operation processes and the likely impacts that are associated with those activities.

It is therefore necessary to subcategorize the EMP into Construction and Operational activities. The first category of the EMP which deals with project activities identified and highlight the activities impacts and the phases they are likely to occur. In this respect, this EMP alludes on anticipated construction activities and the mitigation measures that will need to be applied to reduce the severity of the impacts the proposed development may have on the surrounding environment. This will also include rehabilitation measures that will need to be implemented once the construction is completed and how to continuously monitor the plant in accordance to monitoring parameters highlighted herein.

ii. EMP PRINCIPLES

The following principles have informed the compilation of this environmental management Plan:

- The environment is considered to be composed of both biophysical and social components.
- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- Development must be socially, environmentally and economically sustainable.
- Construction, in general, is a disruptive activity and all due consideration must be given to the environment, particularly the social environment, during the execution of the project to minimize the impact on the affected parties.
- Minimization of areas disturbed by construction activities will reduce the severity of the construction related environmental impacts and reduce rehabilitation requirements and costs.

- As minimum requirements, relevant standards relating to international, national, regional and local legislation, where applicable, shall be adhered to. This includes requirements relating to waste emissions (e.g. hazardous, airborne, liquid and solid), waste disposal practices, noise regulations, road traffic ordinance etc.
- Reasonable measures to avoid pollution and environmental degradation are to be provided for.
- The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling, or minimizing further pollution, environmental damage or adverse health effects must be paid for by the person responsible for harming the environment.
- The responsibility for the environmental, health and safety consequences of the proposed development exists throughout its life cycle

1. CHAPTER ONE: BACKGROUND

1.1. Introduction

Rundu Town Council (RTC) herein referred to as the proponent has been planning on the utilisation of the area to the north of the Kavango Regional Council to the Ngandu Lodge as well as creating additional River front properties on this area and extending the Rundu Beach.

In terms of the Namibian environmental legislation (Environmental Management Act (No. 7 of 2007)) and the Environmental Assessment Regulations of 2012; an EIA is required to obtain an Environmental Clearance Certificate from the Ministry of Environment and Tourism (MET) before the area can be developed.

Furthermore, as per the requirements of the Environmental Management Act No. 7 of 2007, Rundu town council has appointed D&P Engineers and Environmental Consultants (DPE) to conduct an Environmental Assessment (EA) and develop an Environmental Management Plan (EMP) for the development. This has been followed by an application for Environmental Clearance Certificate (ECC) to the Ministry of Environment and Tourism (MET): Directorate of Environmental Affairs (DEA).

In this respect, this document forms part of the application to be made to the DEA's office for an Environmental Clearance certificate for the proposed subdivision of incorporated ERF X, Erven 1220/REM and 1229 in accordance with the guidelines and statutes of the Environmental Management Act No.7 of 2007 and the environmental impacts regulations (GN 30 in GG 4878 of 6 February 2012)

1.2. Project Location

The proposed area is located east of the Rundu Beach area and north of the Kavango Regional Council up to Ngandu Lodge to the east.

The area is situated on vacant townlands and is zoned "Undetermined" according to the Rundu Town Planning Scheme. Ownership of the Remainder of the Farm Rundu Townlands No. 1329 vests with the Rundu Town Council as indicated on Certificate of registered Title No. T4396/1999

Figure 1 gives the locality of the proposed project.

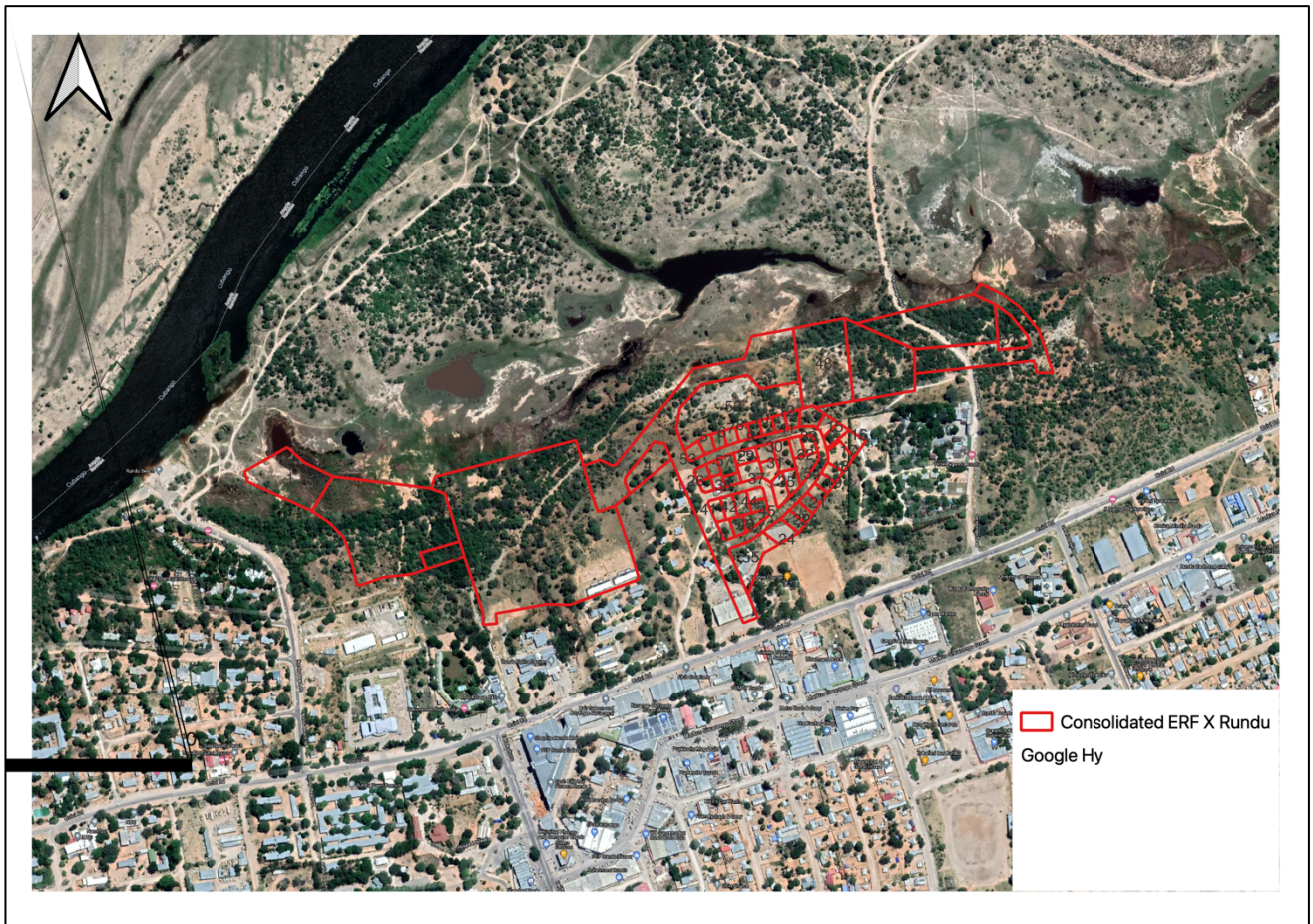


Figure 1: Project Locality

1.3. Development Proposal for the Extension of Rundu Beach up to Ngandu Lodge

The Remainder of the Farm Rundu Townlands No. 1329 has been subdivided into Portion 129 and Remainder. The newly created Portion 129 will be rezoned from “Undetermined” to “Civic Reserve”. The process of advertising was advertised and approved by Council. It will be included into a new Rundu Town Planning Amendment Scheme.

Furthermore the Portion A will be incorporated as an erf into Rundu Extension 3 and consolidated with Erven 1220/Rem and 1229 into Consolidated Erf “X”, Rundu Extension 3 that measures 234 788m² in extent. Both Erven Re/1220 and 1229 Rundu extension 3 are owned by the Rundu Town Council.

The newly incorporated and Consolidated Erf “X”, Rundu Extension 3 is to be used for the creation of the Rundu Beach Development which will be further subdivided into 58 erven and Remainder (figure 1).

The subdivision of Consolidated Erf X will consist of the following erven:

Table 1: Number of land uses and sizes

Erf No	± Sizes m²	Proposed Zonings
Erf 1	7830	Hospitality
Erf 2	26772	Hospitality
Erf 3	17504	Hospitality
Erf 4	2809	Hospitality
Erf 5	561	Residential
Erf 6	534	Residential
Erf 7	514	Residential
Erf 8	484	Residential
Erf 9	492	Residential
Erf 10	531	Residential
Erf 11	556	Residential
Erf 12	604	Residential
Erf 13	1084	Residential
Erf 14	632	Residential
Erf 15	790	Residential
Erf 16	1100	Residential
Erf 17	1275	Residential
Erf 18	609	Residential
Erf 19	568	Residential
Erf 20	564	Residential
Erf 21	603	Residential
Erf 22	633	Residential
Erf 23	708	Residential
Erf 24	1242	Residential
Erf 25	405	Residential
Erf 26	466	Residential
Erf 27	454	Residential
Erf 28	875	Residential
Erf 29	800	Residential
Erf 30	734	Residential
Erf 31	1385	Residential
Erf 32	660	Residential
Erf 33	644	Residential
Erf 34	824	Residential
Erf 35	1044	Residential

Erf 36	826	Residential
Erf 37	1044	Residential
Erf 38	465	Residential
Erf 39	416	Residential
Erf 40	636	Residential
Erf 41	717	Residential
Erf 42	746	Residential
Erf 43	864	Residential
Erf 44	527	Residential
Erf 45	498	Residential
Erf 46	849	Institutional
Erf 47	627	Residential
Erf 48	11254	Hospitality
Erf 49	10713	Hospitality
Erf 50	12854	Hospitality
Erf 51	2465	Government Reserve
Erf 52	14733	Private Open Space
Erf 53	623	Public Open Space
Erf 54	1185	Public Open Space
Erf 55	4339	Public Open Space
Erf 56	44069	Public Open Space
Erf 57	1759	Street
Erf 58	37626	Street
Rem	11470	Street
Total	238594	

2. CHAPTER TWO: PURPOSE OF THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

2.1. Overview

This EMP has been developed for the proposed subdivision of consolidated ERF X: Erven 1220/Rem and 1229. The proposed development involves the closure of public open space, subdivision and servicing of land that has been lying dormant and in proximity to the Kavango River riverine ecosystem. It forms the operational framework within which the proposed project is to operate within. All anticipated environmental and social impacts identified in the environmental scoping report are addressed, with a mitigation action, monitoring requirements, key indicator and responsibilities.

This EMP is incessant, and it requires compliance monitoring, updating and or amendment if the scope of operations change. All personnel working on the project will be legally required to comply with the standards set out in this EMP.

This section describes the Environmental Management Plan (EMP) for impacts associated with the proposed development. The EMP stipulates the management of environmental programs in a systematic, planned and documented manner. The EMP below includes the organizational structure, planning and monitoring for environmental protection at the proposed farm area development and other areas of its influence. The aim is to ensure that the proponent maintains adequate control over the project operations to:

- To prevent negative impacts where possible;
- Reduce or minimise the extent of impact during project life cycle;
- Prevent long-term environmental degradation.
- Ensure public safety and health is protected

2.2. Legal and Other Requirements Compliance

This report presents the EMP and has been undertaken in accordance with the requirements of the Environmental Management Act, No. 7 of 2007 and the Environmental Assessment regulations of 2012. As such, key requirements in accordance to this Act, classifies the proposed project as listed and invokes the need for an environmental management plan to sustainably implement this project. However, legal compliance is not only limited to the EMA, but also applies to all applying legal requirements identified in the ESR. When licenses are required such as land clearance permit, waste disposal or hazardous waste disposal, the proponent should ensure that all licenses and permits are obtained and fulfilled as per conditions.

2.3. The EMP Administration

There is a strong need to clearly outline the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. There is also a need for the proponent to appoint an overall responsible person (Site Manager) to ensure the successful implementation of the EMP.

It solely remains the responsibility of RTC to ensure;

- That all members of the project team, including contractors, comply with this EMP;
- That all personnel are provided with sufficient training, supervision, and instruction on the EMP; and
- Ensuring that any persons allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood.

3. CHAPTER THREE: ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The erven formalisation will have environmental impacts as indicated in the Environmental scoping report. This section describes the Environmental Management Plan (EMP) for impacts associated with the proposed development. The EMP stipulates the management of environmental programs in a systematic, planned and documented manner. The EMP below includes the organizational structure, planning and monitoring for environmental protection at the proposed project development and other areas of its influence. The aim is to ensure that the proponent maintains adequate control over the project operations to:

- To prevent negative impacts where possible;
- Reduce or minimise the extent of impact during project life cycle;
- Prevent long term environmental degradation.

3.1. EMP Administration

There is a strong need to clearly outline the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. To ensure that the EMP is effectively implemented, the consultant also recommends that MET: DEA also conduct regular inspection visits on site to enforce conducting of quarterly and biannual reports.

Furthermore, there is also a need for the proponent to appoint an overall responsible person (project manager) to ensure the successful implementation of the EMP as highlighted below:

Table 2: Roles and Responsibilities in EMP Implementation

ROLE	ENVIRONMENTAL RESPONSIBILITIES
Rundu Town Council	Responsible to enforce EMP implementation during construction and operation phases.
Environmental Control Officer (ECO)	Implement, review and update the EMP. <ul style="list-style-type: none"> • Ensure all reporting and monitoring required under EMP is undertaken, documented and distributed as needed • Conduct environmental site training (tool box talks) and inductions with the support of an environmental consultant. • Conducts environmental audit at work site with the support of environmental consultant. • Close out all non-conformances. • Ensure materials being used on site are environmentally friendly and safe.
The Directorate of Environmental Affairs	Approve the EMP and any amendments to the EMP. <ul style="list-style-type: none"> • Approve reports of environmental issues and non-conformances as issued. • Review and approve environmental reports submitted as part of EMP implementation • Ensure that the client is compliant to the EMP through biannual reporting on environmental performance.
Project Manager	Control and monitor actions required by the EMP. <ul style="list-style-type: none"> • Report all environmental issues to HSE Manager. • Ensure documented procedures are followed and records kept on site. • Ensure any complaints are passed onto the management within 24 hours of receiving the complaint.
Contractors	Follow requirements as directed by the EMP when conducting work. <ul style="list-style-type: none"> • Report any potential environmental issues to site engineer/project manager, indicating spilt oil, excess waste, excessive dust generation, dirty water running off the site and other possible non-conformances. Ensure monthly ESG reporting.

Table 3: Construction Phase Management Actions

Impact	Description	Effects	Class	Time frame	Responsibility	Action
Construction Phase-Negative Impacts						
Noise pollution	Noise will be generated through: -Access roads upgrading -Construction of Streets -Construction of drainage services and water reticulation systems. -Construction of buildings -Moving vehicles.	- The health of working personnel could be disturbed. - Passers-by could be disturbed by the noise. - General annoyance -Driving away of local animals species near the project site -Residents nearby will be affected	Environmental	6-8 months	-Environmental Control Officer -Site Manger	- A construction interval will be established, used and adhered to. - Workers will be issued ear plugs to protect them from excessive noise. - Public will be notified through printed timetable stating planned operational activities. - Construction activities will be conducted during daytime. -Site notices will be erected on and around the site notifying visitors and nearby residents of different hazards on site.
Dust Generation	Dust will accumulate because of the land preparation, onsite movements of vehicles and machines, wind blowing on loose material during construction and tipping.	- Can lead to respiratory illnesses especially to those working in the area. - General air pollution. -Nuisance to nearby residents	Environmental	6-8 months	-Environmental Control Officer -Project Manger	- Dust suppression will be done through watering dust sources surfaces. -Watering down dusty surfaces, -Ensure that protective equipment such as respirators are distributed to employees, and ensure their use. -Site notices to be erected on and around the site to inform visitors and surrounding residents.
Loss of Biodiversity	-Vegetative plants on site will be removed	-The clearing of vegetation will result in the breaking of the ecosystem processes in the area.	Environmental	Construction phase	-Environmental Control Officer -Site Manager	- The proposed project area has a portion that is already developed and has minimal vegetation However the portion directly behind the Kavango

	<p>-Habitat destruction for both ground dwelling species and tree dwelling species.</p> <p>-Soil disturbance on and around the site.</p>	<p>-Loss of aesthetic value of the proposed project area.</p> <p>-The few small animals still habiting the place such as small rodents and birds will be forced away.</p> <p>-The ecosystem food chain on and around the area will be broken.</p>				<p>East Regional council spreading westwards towards Rundu beach has some dense vegetation, thus;</p> <p>- All the major trees will be preserved and the layout plan will fit into the environment without affecting the trees.</p> <p>- Ground disturbance will only be limited to boundary area to avoid affecting a large area.</p> <p>-Upon completion of construction activities more trees and lawn will be planted on and around the site to restore the site into a status that is environmentally friendly.</p> <p>-Some areas are densely vegetated and prior to removal, land clearance permit from MEFT: Directory of Forestry should be obtained.</p>
Greenhouse gas emissions	<p>Green House Gasses (GHGs) emissions will be produced from the following activities:</p> <ul style="list-style-type: none"> • Fuels combustion for transport (construction vehicles and equipment) • Ground excavation releases phosphorus found underground and releases particulate matter into the atmosphere. 	<p>-Global climate change</p> <p>- Air pollution</p>	Environmental	Construction phase	<p>-Environmental Control Officer</p> <p>-Project Manager</p> <p>-Department of Environmental Affairs.</p>	<p>-Adopt the use of ethanol blended fuels wherever necessary.</p> <p>-Design an operation system that cuts on fuel consumption.</p>

<p>Pollution from construction activities</p>	<p>Construction is associated with a lot of raw material and activities that results in pollution</p>	<p>-Chemical pollution from oil spills resulting from the handling of various machineries used during the construction phase -Construction rubble, empty packaging containers/bags and materials remnants. -Construction workers can also pollute the surrounding environs if they are not provided with adequate toilet facilities and a waste management system for domestic waste.</p>	<p>Environmental</p>	<p>Construction phase</p>	<p>-Environmental Control Officer -Project Manger</p>	<p>- Ensure that all waste from construction activities is stored and contained in designated containers and transported to the Rundu waste disposal site. -Bulky waste such as building rubbles must be collected and disposed of at Rundu Town Council solid waste disposal site. -Because the site is in proximity to the Rundu flood plains, all necessary measures to prevent soil and water contamination should be prioritised and environmental control should be conducted every month.</p>
<p>Hydrocarbons release into the environment</p>	<p>There will be no storage of oils and fuel on site, however there is risk of spillage of hydrocarbons from vehicles and machinery operations, maintenance through leakages and spillages which may result in environmental contamination</p>	<p>-Washing away of contaminated soils by rains into nearby rivers -Pollution of soil and affecting small living organisms habituating the soil -Result in possible groundwater pollution. -Possible fire risk on and around the site</p>	<p>Environmental</p>	<p>Construction Phase</p>	<p>-Environmental Control Officer -Project Manager -Department of Environmental Affairs.</p>	<p>-Implement a maintenance programme to ensure all vehicles, machinery and equipment are and remain in proper working order -Vehicle maintenance should be Conducted in designated areas only, preferably off-site. - Spillages are to be removed from site by a specialist waste removal contractor such a rent a drum. -Waste oil, fuels and other chemicals from drip trays on stationery vehicles and machinery will be disposed of as hazardous waste at a licensed facility by a specialist hazardous waste handler.</p>

						<p>-Oil residue will be treated with oil absorbent material such as Drizit or bio-remediation and removed to an approved waste disposal site</p> <p>-Spill kits will be easily accessible and workers will be trained in the use thereof.</p> <p>-Staff and contractors will be trained in the handling and storage of oils, fuels, chemicals and other hazardous substances</p> <p>-No bins containing organic solvents such as paint and thinners shall be cleaned on site, unless containers for liquid waste disposal are provided on site.</p>
Safety and Health risks	Construction related Safety and Health hazards	-Injuries to workers such as Occupational dermatitis, slips and fall of humans and objects, musculoskeletal disorders, etc.	Health and safety	Construction phase	Project manager	<p>- Equip workers with Personal Protective Equipment (PPE), provide trainings on how to effectively use the PPE.</p> <p>-Provide platforms for briefings and meetings about possible safety and health hazards in the work place</p> <p>-Provide site signs warning and informing about different hazards on site.</p>
Population Influx	The project will bring in skilled and unskilled workforce into Rundu area from other places increasing population density in the area.	-There is potential for cultural systems conflict between locals and new people in the area	Socio-economic	Construction phase	-Environmental Control Officer -Project Manger	<p>-Train and brief employees to respect local cultures and leaders.</p> <p>-Engage on massive sexual health training and awareness and providing contraceptives such as condoms, as</p>

		<ul style="list-style-type: none"> -Potential for rife prostitution and spread of HIV/AIDS and other STDs -Potential for scaring away of local wild animals, poaching and removal of protected indigenous vegetative species 				<p>well as provide means counselling for those that are affected by HIV/AIDS and other STDs,</p> <ul style="list-style-type: none"> - Provide environmental trainings and continue a regular basis briefing the employees about nature conservation (animal and plants), and discourage indiscriminate vegetation clearance.
Land use change	-The existing environment will drastically change from a dormant piece of land to a modernised urban development.	<ul style="list-style-type: none"> -The area will no longer be suitable for agriculture. -Sudden change in landscape appearances may be unfavourable to the conservatives. 	<ul style="list-style-type: none"> -Social -Terrestrial environment 	Permanent	<ul style="list-style-type: none"> -Environmental Control Officer -Project Manger 	<ul style="list-style-type: none"> -The development should blend into the existing area through designing and colour coding. -Green designing will bring life to the site and blend with surrounding areas. -The future owners of the erven meant for tourism and any other activity other than residential that may be listed for EIA pre-requirement, should still undergo a project-specific assessment.
Extraction of consumption resources	-Construction raw materials such as sand and aggregate come from the extractive industry and it might have detrimental impacts on the environment.	<ul style="list-style-type: none"> -Sand abstractors may result in degradation from the source areas. -Unsustainable construction practices can cause damage to the ecological and social environment through noise, driving away animals and destruction of forest resources. 	<ul style="list-style-type: none"> -Ecological -Social 	Construction phase	<ul style="list-style-type: none"> -Environmental Control Officer -Site Engineer 	-The project manager will only make sure that suppliers of raw materials from the extractive industry have an Environmental Clearance Certificate for their activities.

Resources consumption	The construction industry can be resource intensive, i.e. electrical and water resources.	-The project can result in a strain on available water resources and electricity.	-Socio-economic	Construction phase.	-Environmental Control Officer -Project Manger	-Water saving should be ensured by the site manager i.e. repairing leakages, opening taps only when water is required and recycling of water on site. -Electricity supply can be augmented by sustainable energy such as solar to power things such as boreholes and smaller appliances on site.
Construction Phase-Positive Impacts						
Employment creation	The construction exercise provides an opportunity of outsourcing work	- Improves disposable income to those employed and their immediate families.	Socio-economic	Project life time	-Project Manger	- Work with local leadership (councillor) on acquiring non-skilled labour from the residents.
Business linkages	-Raw materials acquiring and contracting companies provide an opportunity for businesses.	-Local suppliers will be presented with an opportunity to empower their businesses. -Construction workers can be provided with accommodation, food and services from the local community increasing business activities.	-Socio-economic	Construction phase	-Project Manger	-The proponent will outsource most of its materials and services from Rundu.
Infrastructure development	The development presents a unique opportunity for infrastructure development in Rundu Town.	-Existing roads will be upgraded which will benefit the local community. -Development of the facilities will also pave way for future developers to grow interests in the area	-Socio-economic	Construction phase	-Project manager	-Development such as road upgrading will not only be limited up until the project site, but it will be extended to service other residents as well.

		and result in ripple effects and quick growing of the area.				
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3.2. Operational Phase

The operational phase is the most critical component of project implementation since it is more on a long term, however and it is normally associated with less impacts as compared to construction phase. This phase will comprise of the actual day to day running of the facilities. This phase is expected to last permanently, but with upgrading activities occasionally. There will be several impacts that will occur on a daily basis or other sequential routine. The phase forms the basis of an Environmental Management Plan that is detailed in Chapter and will be followed by the decommissioning phase. The major impacts identified by this study for the operational phase are as detailed in the previous chapter.

Table 4: Impacts associated with the Operation Phase

Aspect	Description	Effects	Class	Time Frame	Responsibility	Action
Operation Phase-Positive Impacts						
Water usage	-Water is an important resource that will be used by the residents for domestic purposes, the proposed project will be serviced with water by Rundu Town council's water reticulation system.	-Straining local water supply from the municipal council water reticulation system	Environmental	Permanent	Building/Site manager	-Water saving connections to be put in place. -Regular maintenance of water pipes to avoid leakages and wasteful use of water resources.
Solid Waste	- Domestic and industrial solid waste will be generated by the residents who will settle in this area. It is therefore very important to construct appropriate infrastructure to management thus waste types, etc.	- Eyesore to the environment -Unwanted nutrient disposal into the soils, - Detrimental to livestock health	Environmental Socio-economic	Permanent	-Site manager	-Visual inspections monitoring -All waste will be managed by Rundu Town Council, the developer will ensure that domestic waste handling facilities such as dust bins and skip containers are available for all erven. -Waste separation will be provided for to allow for recycling of recyclable materials.
Sewerage and effluent waste	Domestic activities will result in ablution sewer water	-Health hazard	-Environmental -Health	Permanent	Site Manager	-All sewerage waste will be channelled into the Municipal sewer reticulation system.
Population increase	Influx of population into the area.	-Population increase may result in social evils such as prostitution and high crime rate.	-Socio-economic	Permanent	-Project proponent -Police -Health services	-Engaging actively in sexual health to avoid diseases spreading sexually.

		<ul style="list-style-type: none"> -Pressure on available social services. -Cultural integration may result in dilution of the local values and cultures. -Possibility for conflicts between new residents, visitors and the residents. 				
Increased storm water flow	-The area is undeveloped hence most water quickly infiltrates as it reaches the ground, but due to the paving and hard surfaces storm water will increase	<ul style="list-style-type: none"> -Enhance the chances of flood occurrences -Chances of soil erosion and gully formation will be increased 	Environmental	Permanent	<ul style="list-style-type: none"> -Site Engineer -Environmental Control Officer 	-Standard storm water drainage will be part of the water reticulation designs indicating the storm water deposit areas.
Infrastructure hazards	-Infrastructure hazards are potential risks that building pose to its inhabitants, local environment or surrounding residents.	<ul style="list-style-type: none"> -There is potential for building collapse. -Fire risks and hazards 	<ul style="list-style-type: none"> -Socio-economic -Environmental 	Permanent	<ul style="list-style-type: none"> -Site Engineer -Contractor -Project proponent -Buildings inspectorate -Ministry of Health and Social Services. -Ministry of Safety and security 	<ul style="list-style-type: none"> -Sewerage infrastructure will be regularly monitored and inspected over time. -Standard buildings will be constructed and building inspection will be done by Regional Council officers. -Fire emergency evacuation plan will be put in place to avoid fatalities and injuries in case of an emergency.
Pressure on social amenities	The incoming population to the area will result in pressure on available social amenities.	-There will be increased demand for education and health facilities.	-Social	Permanent	-Project proponent	-The project proponent has left space for possible institutional facilities for education or health, which will also serve the surround communities and further.

Operational Phase-Positive Impacts						
Development of the area	-The project will further develop Rundu Town as a growing town.	-Ripple effects will result in construction of supporting infrastructure such as schools, hospitals, car services and supermarkets.	-Economic	Permanent	-Regional council	-The Development Should Be Regulated In Such a way that the local people are empowered and benefit from the development activities.
Revenue generation	The development is bound by to pay tax and rates to Rundu Town Council and the government	-The regional council, village council and other service providers will benefit from revenue generation from the development -Business facilities will be paying tax to the government benefiting the country at large.	National	Permanent	-Project proponent -Inland Revenue department	-The project will benefit the locals, authorities and the government if all dues, rates and taxes are adhered to.

4. CHAPTER FOUR: CONCLUSION AND RECOMMENDATIONS

4.1. Recommendation from Environmental Assessment Practitioner

Based on the information provided it is the opinion of D & P Engineers and Environmental Consultants cc that no fatal flaws have been identified for the proposed development and that the information contained in this report is sufficient enough to allow DEA to make an informed decision.

The Environmental Consultant therefore recommends that Environmental Clearance be granted for the proposed development based on the following recommendations:

- The proposed activity is not anticipated to have significant environmental impacts.
- The following recommendations should be implemented in order to ensure that potential impacts associated with the establishment and operation of the site are minimised:
 - i. Any areas disturbed during construction and operation must be rehabilitated.
 - ii. Vegetation Clearance Permit should be obtained.
 - iii. Construction to take place during working hours.
 - iv. Trampling and disturbance associated with construction should be limited to within 10m (ten metres) of the footprint of the site.
 - v. On completion of the project all litter and construction debris shall be immediately removed from the site.
 - vi. Mitigation measures to reduce the potential visual impact should be implemented as far as possible.