

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

FOR PROPOSED MULTIPURPOSE SHOPPING MALL IN OMUTHIYA COMMUNAL AREA, OSHIKOTO REGION (Situating 10 kilometres South of Omuthiya)



Assessed by:
NYEPEZ CONSULTANCY CC

Assessed for:
Special Inn logistics, cc/2017/05491
P.O Box 24953, Windhoek
special.inn@iway.na
Cell: +264 811284626

July 2023

ACRONYMS/GLOSSARY

EA	Environmental Assessment
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EMA	Environmental Management Act
ESMP	Environmental and Social Management Plan
ESMMP	Environmental & Social Mitigation Management Plan
MoE	Ministry of Education
MoE	Ministry of Environment & tourism
CBNRM	Community Based Natural Resource Management

TABLE OF CONTENT

ACRONYMS/GLOSSARY	2
GENERAL INTRODUCTION.....	5
1.1 Introduction	5
1.2 Project area locational jurisdiction	5
1.3 Objectives of the Assignment	6
a. Project Objectives	6
1.4 Scope of Work.....	6
1.5 Justification for the ESMP	7
CHAPTER TWO	7
PROJECT DESCRIPTION.....	7
2.1 Introduction	7
2.2. Overview of the multipurpose shopping mall	7
2.3 Current Land Use	11
2.4 Environmental Screening Category	14
2.5 Project Location and Proposed Works	14
CHAPTER THREE	15
POLICY, ADMINISTRATIVE AND LEGAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL	15
3.1 Introduction	15
3.2 Legal and Policy Frameworks.....	15
CHAPTER FOUR.....	17
ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN	17
4.1 Estimated Cost.....	17
4.2 Baseline Data.....	17
4.2.1 Land Resources.....	17
4.2.2 Hydrology and Water Resources	20
4.2.3 Air and Noise.....	20
4.2.4 Biological Resources	20
4.2.5 Socio-Economic and Cultural.....	21
4.3 Analysis of Alternatives	22
4.4 Identification of Potential Impacts	23
4.4.1 Terminology	23
4.4.2 Environmental and Social Impacts	24
4.5 Environmental Management Action Plan (EMP)	27

4.5 1 EMP Implementation.....	27
4.5.2 A Summary of Anticipated Project Impacts	27
4.6 Occupational Safety, Health EMP	30
4.7 Bio-Physical EMP	33
4.7.1 Soil erosion	33
4.7.2 Land pollution.....	34
4.7.3 Air pollution	35
4.7.4 Underground water pollution	35
4.7.5 Increased surface runoff.....	36
4.7.8 Change in water table patterns	37
4.8 Occupational Health and Safety Monitoring Program.....	38
4.8 Emergency Preparedness and Response Plan (EPRP).....	39
4.8.1 Fire.....	39
4.8.2 Medical treatment and emergencies.....	39
4.8.3 Health and Safety Emergency prevention	40
4.8.4 Emergency prevention	40
4.8.5 EMP Conclusion and Recommendations	41

CHAPTER ONE GENERAL INTRODUCTION

1.1 Introduction

Special Inn logistics, cc/2017/05491 is the proponent and developer that acquired a portion of communal land from Omuthiya traditional authority (through the administration of the Chief) through customary allocation to Namibian resident as prescribed by the Namibia Land Reform Act of 2007. The proponent proposes to establish and develop a multi-purpose shopping complex (mall) on the piece of land acquired.

The project is on a 49.8 Hectares of Land, undeveloped, vacant and not operational. The project site area is situated in Omuthiya near to the B1 main road, South of the town about +/- 10 kilometres South of Omuthiya Central Business district. The project site is vacant, zoned undetermined and an application for alienation by leasehold was approved by the Ondonga Traditional Authority (Chief) and will subsequently be recommended for registration and approval by Ministry of land reform.

1.2 Project area locational jurisdiction

The site falls under the jurisdiction of Ondonga Traditional Authority in Omuthiya Communal area, who have in principle approved the allocation and upgrading of the existing Recreation centre in Omuthiya. **Special Inn logistics, cc/2017/05491** was allocated the right of Lease hold to operate the business on the site. some social responsibility and support agreement were signed upon issuing and approval of the Leasehold between **Special Inn logistics, cc/2017/05491** and Ondonga Traditional Authority.

The project has already received endorsement (Leasehold). According to the Oshikoto Integrated Rural Land Use Plan, the project site area falls within the potential economic, residential and tourism zone in which the following Land use activities are permitted: Tourism establishments, Recreational development, General business, General residential activity and livestock grazing. The site has no conservancy restrictions that exists in the area.

Since the proposed multipurpose shopping mall is not developed and is non-existing, it is therefore required as in accordance with Namibia's Environmental Act, Act 7 of 2007, that an EIA, Scoping and Environmental Management Plan (EMP) for the development be conducted

in line with the legal statutes. The prepared EMP report is required to be submitted to MET in order to obtain an Environmental Clearance Certificate (ECC) for the development to proceed and to adhere or comply to different environmental policies and legal frameworks

In Namibia, the construction of proposed development is guided by an Environmental and Social Management Framework (ESMF). The purposes of the ESMF are to prevent, where possible avoid and effectively mitigate and manage environmental and social issues that may arise from implementation or development of the shopping mall. This therefore makes it imperative for the owner (Special Inn logistics, cc/2017/05491) to comply with these frameworks and all relevant national environmental laws, by preparing an Environmental and Social Management Plan (ESMP).

1.3 Objectives of the Assignment

The objectives of the Assignment per the Terms of Reference (ToR) were to develop:

- An Environmental and Management Plan (EMP) for the project

a. Project Objectives

The aim of this project is to establish a new multipurpose shopping complex on in Omuthiya Communal area. The objectives of the project by Special Inn logistics Cc are to:

- To address the rapid growing population and urbanization challenges with in Omuthiya and Tsumeb and beyond
- Improve the living standards of local people by creating new opportunities for business agglomeration since tourism industry is lucrative in the region, and
- Ensure a sustainable project development and increase profitability.
- Contribute to the GDP and GNP of the country and the Oshikoto region as whole

1.4 Scope of Work

The scope of work included the following:

- a) Identification of environmental and social impacts.
- b) Description of the characteristics of the impacts - magnitude, distribution, duration, significance and who will be affected.
- c) Proposed mitigation and management measures.

d) Proposed Environmental Management Plan (EMP) which defines specific actions for mitigations, appropriate monitoring indicators, frequency of monitoring, person(s) responsible for the task and costs.

1.5 Justification for the ESMP

The EMP, a mitigative plan for impacts created as a result of development interventions has its precedence from several local and international laws and policies. Most notable among these are the Environmental Management Act of 2007, and World Bank Operational Policies. Primarily, the EMP is to establish and ensure the implementation of a programme of measures and actions for mitigating social and environmental risks and impacts. It is a combination of policies and operational practices designed to prevent impacts whenever technically and financially feasible or to enhance positive beneficial impacts based on the following mitigation hierarchy:

- Avoidance;
- Minimization; and
- Compensation

CHAPTER TWO PROJECT DESCRIPTION

2.1 Introduction

This section outlines the specifics of the project. It gives an overview of where the project resides, the specific project location, facilities, the environmental screening category under which the proposed sub-project falls and the description of proposed works inclusive in the project.

2.2. Overview of the multipurpose shopping mall

The proposed multipurpose shopping mall development and land use is in line with the Oshikoto Region Integrated Communal Land Use Plan and in line with the Omuthiya's future spatial development plan which permits and allows the development of an economic commercial business expansion in communal as priority growth paradigm. The project is expected to create about 100 jobs on the construction phase of the entire development, about

200 shall be employed during the operational phase of development. It is therefore expected that the proposed development shall create a total sum of about 200-250 permanent jobs once the project becomes operational.

The project area is also associated with the following biodiversity characteristic of vegetation species; Terminalia sericea, Burkea Africana, Baikiaea plurijuga, pterocarpus angolensis, ricinodendron rautanenii and the commiphora. There is no communal sensitive pastoral grass observed to exist on the project site, since the land or area was previously used as a cropfield and the proponent is frequently maintaining the area to prevent invasive acacia plant species which are in abundance.

As a result, the project area has no existence of protected plant species. The site has no profound ground, no archiological sites, no surface watercourse, no wildlife conservation areas and no historical land uses of significancy importance to the communities around the site. Hence the site was chosen for development.

According to the proponent, the proposed multipurpose shopping mall development shall serve as a service retail centre for precious, modest landmark development that shall serve/ provide goods and services, market and enrich the local diversity of Omuthiya town to suit the local and international standard. This shall boost the local socio-economic, promote and improve surrounding property values, market and competitive employment creation, promote the beautiful scenery, aesthetics of town of Omuthiya.

This proposed multipurpose shopping mall development and land use is in line with the Oshikoto Region Integrated Communal Land Use Plan and in line with the Omuthiya's future spatial development plan which permits and allows the development of an economic commercial business expansion in communal as priority growth paradigm.



Figure 1: On-site project existing constructed boundary wall



Figure 2: Locality of project site in proximity to the existing Omuthiya recreation centre

2.3 Current Land Use

The project's proposed development concept is estimated to cost N\$ 15 million including land servicing and project activities will include;

- Construction of (10 000m²) shopping complex mall for retail stores for different retail shops,
- An outdoor recreation relaxation area
- Administrative offices.
- A convenient gym
- Rental office spaces, Bank ATM facilities
- Public vehicle parking's and streets

Other basic services such as water and electricity services will be connected as they exist. The connection will be conducted by Nored on the facility on the expense of the developer once the clearance is acquired.



Figure 3: Project locality site



Figure 4: Project site area

2.4 Environmental Screening Category

Based on the Namibian Environmental Act and the World Bank's categorisation and screening result, the process of clearing of land and development of infrastructures such as the proposed shopping mall fall under Category B also known as Schedule 2.

Screening of sub-projects prior to their implementation is a key requirement of the project. According to the environmental Act Operational Manual, screening is carried out to decide whether a sub-project requires assessment or not, and the level of assessment that may be required. Upon screening, a determination is made for the next step and the level of assessment that will be required for each sub-project.

The World Bank (1999) & Namibian Environmental Act of 2007, classifies projects into categories. Category 'A' projects are categorised as highly risky or contentious or complex projects. Such projects require full Environmental and Social Impact Assessment (ESIA) by both the World Bank and the Environmental Management Act of Namibia. Projects are categorised as 'B' according to the World Bank standards if the adverse environmental and social impacts on human populations or environmentally important areas-including wetlands, forests, grasslands, and other natural habitats are less adverse than those of Category 'A' (World Bank, 1999). The impacts of projects under Category 'B' are site specific, a few of them being irreversible, and mitigation measures quite easy to be defined than those of Category 'A' projects.

2.5 Project Location and Proposed Works

The project site is located in the Omuthiya Communal Area. The land or portion will be verified, surveyed and registered by the Ministry of Land Reform in Omuthiya & Windhoek. This project area is land in Omuthiya Communal land, under the jurisdiction of the customary Chief of Ondonga. The size of the portion is 49.8 hectares. The following facilities are planned to be established on the site.

- Subdivision, verification & surveying of the land (fencing)
- Internal layout design and subdivision (indicative of proposed land use segments)
- Project site levelling, planning, design & drafting of building plans
- Construction of the project infrastructures by phases

- Ground opening of the development and usage thereof

CHAPTER THREE

POLICY, ADMINISTRATIVE AND LEGAL FRAMEWORK FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT IN NAMIBIA

3.1 Introduction

This chapter deals with the legal and policy frameworks as well as the administrative set-up for preparing EMPs in Namibia. The chapter also looks at the existing legal and policy framework for land acquisition and differences between National and World Bank policies.

3.2 Legal and Policy Frameworks

Table below shows the environmental policy and assessment legislations and procedures of Namibia and those of the World Bank, which are relevant to the Project. In principle, the two sets of policies and procedures on environmental and social assessment are similar in many respects.

Table 1: Legal and Policy Frameworks

LEGISLATION/GUIDELINE/POLICY	APPLICABLE CLAUSE/POLICY	COMMENTS
Namibia 's Environmental Assessment policy (1995)	List of activities that require EA.	Tourism facilities need to be assessed in terms of the impact on the natural and social environmental and resources.
Communal Land Reform Act	List of activities that may not be undertaken without a clearance certificate:6. tourism development activities	Conduct a EA in terms of the tourism development and submit to MET in order for a clearance certificate to be issued.
1994 White paper on tourism (MET 1994)	Tourism must provide direct benefits to local people and aid conservation.	Emphasis should be on local benefits from tourism.
1995 policy on wildlife, management, utilisation and tourism in communal area (MET 1995a)	To allow rural communities on state land to undertake tourism ventures and to enter into cooperative agreements with commercial tourism organisations to develop tourism activities on state land.	JV agreements with benefits to local communities should be negotiated between developers and local conservancies.
Inland fisheries resources act,2003 and regulations	Promotion, sustainable utilisation and protection of inland fisheries resources.	A fishing licence need to be obtained from the regional office to engage in recreational fishing

	Restrictions by limiting number of nets, mesh, sizes, net length and damaging fishing methods.	in any inland waters by means of any regulated fishing gear.
Communal land reform act (act no 5 of 2002)	Allocation of rights in respect of communal land –part 2-right of leasehold. A right to leasehold	Application for the right of leasehold in respect of communal land must be made in the prescribed manner to the CCLB. Right of leasehold granted for

Other relevant legal frameworks related to waste management in Namibia

Framework	Emphasis
Atmospheric Pollution Prevention Act No. 45 of 1965	<i>Prevention of pollution of the atmosphere.</i>
Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, 1992	<i>Environmental sound management of hazardous waste and other wastes through the reduction of their movements, for the purpose of reducing their impacts on human health and environment</i>
Hazardous Substances Ordinance No. 14 of 1974	<i>Control of toxic substances (including manufacture, use, disposal, import and export).</i>
Pollution Control and Waste Management Bill of 1999	<i>Prevention and regulation of air, water and land pollutants; establishment of an appropriate framework for integrated pollution prevention and control, regulation of noise, dust and odour, as well as an establishment of a system of waste planning and management.</i>
Pollution Prevention Ordinance No. 11 of 1976	<i>Prevention of air pollution.</i>
Prevention and Combating of Pollution of Sea by Oil Act No. 6 of 1981	<i>Prohibits the discharge of oil from ships, tanker or off-shore installation and gives the state certain powers to prevent such pollution and deal with removal of oil spills.</i>
Prevention and combating of pollution of the sea by oil Act 24 of 1991	<i>Prevention of sea pollution by oil.</i>
UN Convention on the Law of the sea, 1982	<i>Protection and preservation of the marine environment including the seabed, ocean floor, subsoil and the resources in the environment.</i>
Water Resources Management Act No. 24 of 2004	<i>Prevention of water pollution.</i>

CHAPTER FOUR ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

4.1 Estimated Cost

The total estimated renovation or upgrading cost on the existing development is N\$ 15 million including land servicing. This figure is based on the current market price and subject to fluctuations. This means that the timely implementation of the project is important if the assembly is to avoid any possible price increases of goods and services.

4.2 Baseline Data

4.2.1 Land Resources

The nature of the land is generally undulating with a flat sandy area. The area is about 200 meters above sea level. The development project area is a multipurpose shopping mall which is not existing and not operational. The proposed development will have provision and access to all required utilities such as power/ electricity, water, roads, liquid waste water septic tank system. The site where the development is proposed for construction is partly disturbed area, where few planted trees and grass exist.

The project area is also associated with the following biodiversity characteristic of vegetation species; Terminalia sericea, Burkea Africana, Baikiaea plurijuga, pterocarpus angolensis, ricinodendron rautanenii and the commiphora. There is no communal sensitive pastoral grass observed to exist on the project site, since the land or area was previously used as a cropfield and the proponent is frequently maintaining the area to prevent invasive acacia plant species which are in abundance

4.2.1.1 Electricity power grid

The proposed project area as well as the communities within a 10kilolmeter radius from Omuthiya has the following services: Potable water and water reticulation system, water borne. sanitation as well as electricity. These bulk services were extended from the existing bulk services of Omuthiya town and was extended to the rest of the rural communities



through service providers such as NORED, Ministry of Rural water supply, Namwater and Nampower. The proposed project area therefore also benefited from the decentralizing of such bulk service.

Figure 5: Existing -onsite electrical substation



4.2.1.2 Water

Water supply to Recreation centre is connected through the Omuthiya water pipeline which is already functional and is under the auspices of the Ministry for Agriculture water and forestry. The pipeline runs adjacent to the B1 main highway road, where as the pipe is located about 10 meters from the recreation project area. The water is suitable for human consumption.

Figure 6: Existing rural water supply connection points along B1Omuthiya road

4.2.1.3 Roads

The proposed project is already connected to existing rural water bulk connection points connected through Namwater . the water supplied is good for both human and domestic animals' consumption. The proponent is required to pay a monthly rate fee to Namwater

for usage of the water services. Plate 5 below is the picture taken during the field work.



Figure 7: B1 Tsumeb-Omuthiya tarred road (Access Road to the project site on the left)

4.2.1.4 Sewage Treatment and Disposal

The proponent intends to establish and construct a septic tank system that shall be used to absorb and store sewerage grey water. This sewerage water will be kept or stored in a 200 liters septic tank, until such time when water is required to be drained and disposed to the nearest Omuthiya sewer ponds. The proposed project site has no existing gravitation sewer system, hence the need to construct a new septic tank system to support and absorb the project liquid wastes.



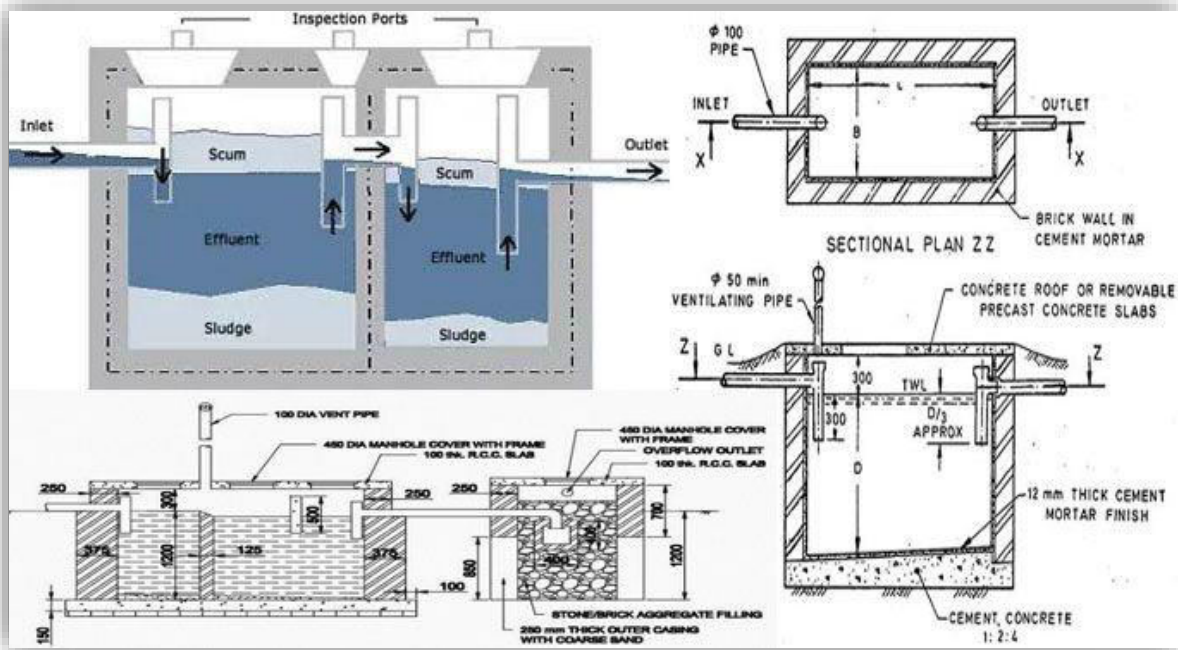


Figure 8: Illustration of the (x) 80 000 Litre septic tank to be installed

4.2.2 Hydrology and Water Resources

There is no availability of surface water in the area. At the same time, the project area is not prone to flood, hence the underground water levels are uncertain and could only be predicted and/or estimated by the hydrological expertise for water sources.

The Tsumeb- Omuthiya B1 Route Communal area is a highly developed area (with businesses, residential properties) and situated few kilometres from the CBD of Omuthiya. The influx of people from other rural areas to Omuthiya have influenced this significant growth, making the area one of the highly developing communal areas. The area has no communal water streams and rivers; it is a dryland area associated with dry savanna grassland.

4.2.3 Air and Noise

Air and noise pollution in the Omuthiya Communal areas are mostly as a result of the human activities. The B1 highway passes through the semi-densely populated Omuthiya Communal Area. Thus, within the central business district (specifically CBD of Omuthiya), air and noise pollution however is a result of the local transportation and activities. Within the project site, air and noise pollution can be attributed to the activities of the artisans.

4.2.4 Biological Resources

The conservation of biological resources (flora and fauna) should be an investment that will yield benefits locally, nationally and globally for present and future generations. Namibia's policy on biological diversity is to conserve the nation's biological diversity while ensuring that they provide lasting social, economic and environmental benefits to the population through their efficient and equitable use. Since the Omuthiya Recreation centre is operational, therefore no biological destruction is disturbed or affected from the operation of the centre

4.2.4.1 Flora

The type of vegetation in an area determines which animals/birds would survive within that locality. This is because vegetation is indicative of the types of soil, hydrology and climate, which have specific physiological requirements preferred only by certain fauna species. Consequently, the project area is also associated with the following biodiversity characteristic of vegetation species; Terminalia sericea, Burkea Africana, Baikiaea plurijuga, pterocarpus angolensis, ricinodendron rautanenii and the commiphora.

4.2.4.2 Fauna

The faunal community structure of any habitat, which is determined by the vegetation of the area, is a strong indication of the past and current ecological processes and anthropogenics at the site. Certain groups of terrestrial animals have been useful in providing clues as to the type of land use changes and the stage of ecological succession within an environment. These include herpetofauna (amphibians and reptiles), avifauna (birds), small and large mammals. Small mammals and herpetofauna are considered key ecological indicators because of features like a high turnover rate and sensitivity to environmental disturbance. This faunal baseline data is as a result of direct observation, refuge examination and informal interviews with the local people.

Subsequently due to the effect of commercial development taking place within Omuthiya Communal area, this have impacted on the geographical movement of wildlife in the area to ore preserved /protected areas such as Etosha National Park. Therefore, are no Fauna can be observed and/or found in the area or in close proximity to the project area.

4.2.5 Socio-Economic and Cultural

4.2.5.1 Demographic Characteristics

Omuthiya Communal area or settlement area is an area where a mixture of different Oshivambo tribes live. However, the most dominate tribe living within the Omuthiya Communal area are Ndonga Speaking tribe, under the jurisdiction of Ondonga Traditional Authority. There is a small number of marginalized son community living within Omuthiya area, who migrated from Central North (Tsumeb) in search of better living conditions. The Omuthiya area have an approximate population of +-4000 people.

4.2.5.2 Economic Characteristics

There are escalating major economic activities taking place in Omuthiya, this is as a result of high demand increase in development in the area. Most economic activities are proposed within the Omuthiya area because of the short distance from the area to the main town. Mobility is high as people are able to commute from their villages to the town. Omuthiya Communal area have access to rural electricity and rural water supply, making it suitable for more economic development. Agriculture is the main economic activity with tourism becoming increasingly important with direct access from the Etosha National Park via the King Nehale Gate.

4.2.5.3 Cultural Heritage

There are no known areas of cultural/archaeological significance on the project site.

4.3 Analysis of Alternatives

The analysis of alternatives in Environmental Assessments considers practicable strategies that will promote the elimination of negative environmental impacts identified. The EIA Regulations require consideration of the main alternatives to a proposed project and also that the basis of the choice of preferred option made should take into account the environmental effects of these alternatives. The following alternatives have been identified and discussed below.

- Alternative Uses of Sites
- “NO-ACTION” Alternative
- Sub-projects as the Alternative

Alternative Uses of Site: The sites could be developed into other facilities such as school, hostel, clinic, or allowed to be in their current state. However, this subproject was highly ranked by the proponent (Special Inn logistics, cc/2017/05491) for the erection and construction of a recreation centre and accommodation to benefit the tourists and/or local people who need relaxation and accommodation close to town of Omuthiya. Because the sub-project was highly ranked, the OMA considered it as a high impact sub-project in the lives of the inhabitants of the community as well as the entire region. Therefore, other alternative uses were not considered.

“NO-ACTION” Alternative: The “no-action” alternative is required to ensure the consideration of the original environment without any development. This is necessary for the decision-makers in considering all possibilities. There would be no additional positive impact on the social and economic lives of the communities identified if the “No-Action” option is considered.

Sub-projects as the Alternative: The Omuthiya Communal Area has the potential of opening up economic activities in their settlement areas as well as creating jobs for the people. This will translate to an improvement in the revenue capacity of the settlement areas, the region and the country at large. Emphasizing on expanded access to economic activities and job creation are key priorities to the Oshikoto regional council.

4.4 Identification of Potential Impacts

The proposed multipurpose shopping mall’s key objective and goal is to enhance positive and sustainable environmental and social outcomes of the project by minimizing and/or avoiding negative environmental and social impacts. Where avoidance is not possible, an Environmental and Social Management Plan (EMP) is developed which provides the framework within which the issues can be addressed. This section identifies the environmental and social impacts associated with the execution of the sub-projects so as to provide basis for the development of an action plan for managing the impacts.

4.4.1 Terminology

Table 2: Defines the terms used in the description of impacts, to ensure consistency and lucidity.

Term	Definition
<i>Nature of Predicted Impacts</i>	
Neutral	No overall environmental impact.
Adverse	Negative environmental impact.
Beneficial	Positive environmental impact
<i>Significance of Predicted Impacts</i>	
Insignificant	Impact either too small to be measured or, even if quantifiable, not giving rise to any material change in the environment
Minor	Impact capable of causing change in the environment but not fundamentally affecting the status, potential productivity or usage of the environment
Significant	Impact capable of causing sufficient change in the environment to affect the status, potential productivity or usage of the environment
<i>Duration of Predicted Impacts</i>	
Short term	Impact persisting for six months or less (i.e. during construction period).
Medium term	Impact persisting for between six months and two years (i.e. during initial operations)
Long term	Impact persisting for longer than two years
<i>The classification of an impact as temporary, short-term or long-term is purely descriptive and does not, of itself imply a degree of significance or acceptability (thus, a temporary impact may also be a significant impact, whilst a long-term impact may be insignificant).</i>	

4.4.2 Environmental and Social Impacts

This section summarizes the various potential impacts grouped under land resources, hydrology and water resources, air quality and noise, biological resources, and socio-economic and cultural resources. The impacts are categorised under each of the aforementioned sections as pre-construction/design and preparation, construction and post-construction/operational impacts

Table 3: Summary of Impacts - Land Resource

Phase	Issue/Activity	Potential Impact	Affected Persons/ Receptor	Nature	Duration	Significance
Pre-Construction/ Design and Preparation	Pre-construction to be undertaken	Negative/ No Impact	Soils	Insignificant	Insignificant	Insignificant
	Movement of earthmoving equipment onto construction site	Negative/ No Impact	Soils	Insignificant	Insignificant	Insignificant
	Slight site clearance will be undertaken site as shopping mall buildings non-existing	Negative/ No Impact	Soils	Insignificant	Insignificant	Insignificant
Construction	Generation of constructional waste will be generated and Excavated soils or redundant materials will be generated.	Negative/ No Impact	Local people/soils	Insignificant	Insignificant	Insignificant
	Fuel and oil spillage caused	Soil contamination	Soils	Insignificant	Insignificant	Insignificant

Post-Construction/ Operational	Disposal of unusable materials and construction elements (metal scraps)	Land degradation: Health Risk	Local population/soils	Adverse	Medium term	Minor
Operational	Abstraction of community water for site water supply	Reduction in community water availability	Water users	Adverse	Short term	Minor

4.5 Environmental Management Action Plan (EMP)

The Environment Management Action Plan (EMAP) provides mitigation measures and actions required to reduce to acceptable standards the negative environmental and social impacts as well as enhance the positive impacts outlined. It also allocates responsibilities and budget for implementing the mitigative measures. This action plan is not meant to be an exhaustive list of actions and mitigation measures. It takes into account the most relevant considerations based on the site visits, public consultation and literature review. The EMAP should be treated as an amendable, flexible document and management program that will change or evolve in response to conditions and circumstances over the duration of the Project.

The priorities of this EMAP will therefore be to: (i) ensure suitable and sufficient training and orientation of employees in order for them to perform their jobs in compliance with sound environmental and social practices, (ii) emphasise sound waste management practices, management of soil erosion, fuel/oil/lubricant handling, storage and spills-prevention procedures (iii) undertake regular verification/monitoring of environmental and social compliance to confirm that the EMAP is being effectively implemented, and (iv) continue the dialogue with stakeholders to maintain good working partnerships.

4.5.1 EMP Implementation

This section details the various strategies that can be employed by the project proponent to reduce the risk of impacts occurring during the course of this project (construction and operation of a shopping mall). This Environmental Management Plan is a strategic design for civil works here being proposed to establish a new shopping mall in Omuthiya Communal area. This EMP is designed to provide approaches to sustainability, monitoring and auditing as stipulated by the EMA ACT of 2007. Mitigation and management measures that are going to be employed during the course of the project are highlighted in this Environmental Management Plan.

4.5.2 A Summary of Anticipated Project Impacts

Establishment of a new multipurpose shopping complex/ mall in Omuthiya Communal Area is most likely to trigger a number of socio economic and environmental impacts. The Consultant recommend the adherence to the Impact Management Plan (IMP) drafted as part of this scoping report to reduce detrimental or irreversible impacts. Failure to do so could be punishable in

accordance to the EMA ACT of **2007** and its regulatory framework.

1. Soil erosion/ land degradation
2. Land pollution
3. Air pollution (noise and dust)
4. Underground water pollution
5. Increased surface runoff
6. Change in water table patterns
7. Socio-Economic impact
8. Illegal activities
9. Occupational safety and health
10. Landscape and visual changes

Table 4: Socio economic EMP

Aspect	Potential Impact	Mitigation and Management Measure	Indicator	Implementing Agency	Monitoring Agency	Frequency
Employment	Employment opportunities and increased disposable income for locals. During all project life cycle	About 80% of labour force required is going to be from the local community this will create a conducive working environment and boost the welfare and improved standard of living to the locals.	Employment of locals Increased GDP per capita income Social wellbeing	Proponent / Developer/ Contractor	Ministry of Labour	Throughout the project life span
Business	Stimulation of business diversification and growth	Proper planning should be taken into consideration with assistance from the local authorities.	Growth of business and diversification linked to infra structural development	Proponent / Developer	Ministry of Industry, Trade and Commerce,	Throughout the project cycle
Theft/ Illicit dealings	Drug abuse Increase in crime rate Prostitution Sexually Transmitted Diseases Decay of moral behavior	A thorough code of conduct for employees will be developed. Establishment and rigorous enforcement of rules and disciplinary procedures. -Vetting potential workers for criminal records. CCTV Cameras on site	Availability of code of conduct. Strict adherence to rules and disciplinary procedure Vetting prospective workers.	Proponent / Developer	NAMPOL, Proponent/ Developer, Security Department/ Local neighborhood	Daily checks Throughout the project cycle

4.6 Occupational Safety, Health EMP

Occupational Health and Safety should be given priority during the project implementation. The construction of the shopping mall might include working with heavy power machinery, use of potentially dangerous equipment, working with health threatening substances, injuries, prolonged exposure to noise, static postures, and agronomic hazardous environments. The day to day running of the proposed shopping complex is likely to pose human exposure to potentially fatality incidents, robbery and prolonged working hours. The scoping report recommends that the project proponent should come up with a construction Safety, Health and Environmental Wellness Plan (SHEW Plan) to support the contents of this EMP on Safety and Health related issues. The SHEW Plan must be strongly be adhered to and monitoring should be done with certified/ experienced Safety and Health personnel.

Table 5: Occupational Safety, Health and the Environmental Management Plan

Aspect	Potential Impact	Mitigation and Management Measure	Indicator	Implementing Agency	Monitoring Agency	Frequency
Occupational Safety	<ul style="list-style-type: none"> •Injuries to workers. •Ergonomics hazards •Road Accidents •Musculoskeletal Disorders •Pains and needles •Saw dust inhalation •Robbery •Fire outbreaks 	<ul style="list-style-type: none"> •Safety training, Education and awareness •Provide adequate personal protective equipment (ppe) •Conducting pre job trainings •Hiring experts •CCTV monitoring •Conducting SHE talk/ tailgate during construction phase 	<ul style="list-style-type: none"> •Construction work place hazards •Day to day heavy equipment use •Use of Hazardous substances •Working with petty cash 	Proponent / Developer Contractor Safety Officer/ site manager	Ministry of Labour. MET	Throughout the project life span

Aspect	Potential Impact	Mitigation and Management Measure	Indicator	Implementing Agency	Monitoring Agency	Frequency
Occupational Health/ Sanitation	Health and sanitation of workers and visitors	First Aid kit. Ablution facilities. Waste management and disposal must be done correctly.	Operation phase includes food handling storage and distribution Generation of waste	•Proponent / Developer •Contractor •Safety Officer/ site manager	Ministry of Labour. MET	Throughout the project life span
Diseases	Potential spreading of HIVS / AIDS and other communicable diseases.	Minimizing number of non-local employees. Provision of condoms and awareness campaign to the employees on morality, ethics and issues on HIV/AIDS and STI's.	Employment of local communities for less-specialized jobs Provision of free condoms. AIDS awareness campaigns	Proponent / Developer	Ministry of Health, Proponent / Developer,	Throughout the project cycle

4.7 Bio-Physical EMP

4.7.1 Soil erosion

Soil erosion is, at its core, a natural process when topsoil, which is the upper-most layer of the ground, is worn away due to factors such as water, wind and the use of heavy machinery. The construction phase of the project is characterized with excavations and heavy trucks movement. This is most likely to make the project site susceptible to soil erosion. However, the proponents must employ ways of protecting soil erosion such as using proclaimed paths, dust suppression using water and re filling borrowed pits.

Table 6: Soil erosion Management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
Soil erosion/ land degradation	<ul style="list-style-type: none"> • Reduced ability of soil to hold water and nutrients • Exposure of subsoil which has poor physical and chemical properties 	<ul style="list-style-type: none"> • Soil compaction • Reduced biomass production • Loss of soil structure • Poor internal drainage • Salinization and soil acidity problems due to hazardous substances spillages 	<ul style="list-style-type: none"> • Use land according to its capability • Protect the soil surface with lawns/ grasses • Afforestation and education and awareness • Control runoff before it develops into an erosive force • Connecting to existing municipal culverts • Working on the soil while it's not too dry 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/ SHE officer • Omuthiya Town Council

4.7.2 Land pollution

It is the deposition of solid or liquid waste materials on land or underground in a manner that can contaminate the soil and groundwater, threaten public health, and cause unsightly conditions and nuisances. The Public and Environmental Health Act, Act No 1 of 2015 of the Republic of Namibia defines “Hazardous waste” as waste which, because of its quantity concentration or characteristics, may be hazardous to human health or the environment when improperly treated, stored, transported or disposed. The summary of effects and solutions to land pollution likely to be encountered during the project lifespan can be explained by table 7 below.

Table 7: Land pollution management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
Land pollution	<ul style="list-style-type: none"> • Loss of ecosystems • Reduce the aesthetic value of the land • Highly imbalanced rain cycle • Contaminated soil and underground water by heavy metals pose health threats • Suffocation of pests/ kids with improperly plastic waste. 	<ul style="list-style-type: none"> • Domestic waste • Construction waste/ rubbles • Day to day unpacking of goods • Public littering 	<ul style="list-style-type: none"> • Efficient utilization of resources and reducing waste generation • Proper garbage disposal (using onsite bin liners, skip bins) • Recycling recyclable materials • Education and awareness • Spillage/ anti littering blitz/ cleaning ups schedules 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/ SHE officer • Omuthiya Town Council

4.7.3 Air pollution

Air pollution refers to the release of pollutants into the air that are detrimental to human health and the planet as a whole. The Namibian EMA Act of 2007 has a mandate to protect public health by regulating the emissions of these harmful air pollutants. Table 8 overleaf provides the potential impacts of air pollution as well as the solutions to this problem.

Table 8: Air pollution Management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
Air pollution	<ul style="list-style-type: none"> • Changes in lung function and asthma attacks • Respiratory and cardiovascular hospitalizations • Mortality • Headaches, nausea and allergic reactions 	<ol style="list-style-type: none"> 1. Mobile sources such as cars, trucks and generators etc. 2. Solid waste burning 	<ul style="list-style-type: none"> • Use of renewable fuel and clean energy production • Energy conservation and efficiency • Eco-friendly transportation • Green building • Education and awareness on solid waste disposal 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/SHE officer • Omuthiya Town Council

4.7.4 Underground water pollution

Groundwater contamination occurs when man-made products such as gasoline, oil, road salts and chemicals get into the groundwater and cause it to become unsafe and unfit for human use. Drinking contaminated groundwater can have serious health effects.

Diseases such as hepatitis and dysentery may be caused by contaminated ground water. Poisoning may be caused by toxins that have leached into well water supplies. Wildlife can also be harmed by contaminated groundwater. Other long-term effects such as certain types of cancer may also result from exposure to polluted water. Table 9 below shows the impacts as well as the solutions to underground water pollution.

Table 9: Underground water pollution Management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
Underground water pollution	<ul style="list-style-type: none"> • Diseases such as hepatitis and dysentery may be caused by contamination from septic tank waste • Poisoning may be caused by toxins that have leached into well water supplies. • Wildlife can also be harmed by contaminated groundwater 	<ul style="list-style-type: none"> • Landfills • Uncontrolled Hazardous Waste spillages • Use of compound fertilizers 	<ul style="list-style-type: none"> • Use of native plants that does not need more water and fertilizers. • Use of organic manure • Education and awareness 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/ SHE officer • Omuthiya Town Council

4.7.5 Increased surface runoff

Surface runoff is water from rain, snowmelt, or other sources that flows over the land surface, and is a major component of the water cycle. Runoff that occurs on surfaces before reaching a channel is also called overland flow. In soil science, Horton overland flow describes the tendency of water to flow horizontally across land surfaces when rainfall has exceeded infiltration capacity and depression storage capacity. Table 10 overleaf shows the impacts of surface runoff and the solutions that can be implemented by the proponents.

Table 10: Increased surface runoff Management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
Increased Surface runoff	<ul style="list-style-type: none"> • Aesthetic impact on water resources • Land degradation/ washing away of top soil • Human health risk through transportation of water pollutants into water sources. • Ecosystem disturbance 	<ul style="list-style-type: none"> • Raindrop compaction • Paved surfaces • Roofs and gutters 	<ul style="list-style-type: none"> • Mechanization of water harvesting technologies • Storm drains mechanizations • Planting lawns 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/ SHE officer • Omuthiya Town Council

4.7.8 Change in water table patterns

Water table also called Groundwater Table, upper level of an underground surface in which the soil or rocks are permanently saturated with water. The water table separates the groundwater zone that lies below it from the capillary fringe, or zone of aeration, that lies above it. Table 11 overleaf shows the impacts of change in water table patterns as well as the solutions to this problem.

Table 11: Change in water table patterns Management Plan

Environmental components	Potential impacts	Potential source of impact	Controls through EMP and Design (Remedial measures)	Responsibility
--------------------------	-------------------	----------------------------	---	----------------

Change in water table patterns	<ul style="list-style-type: none"> • Water table level drops • Shortage of safe water for domestic use since ground water is regarded the safest water to drink. 	<ul style="list-style-type: none"> • Deforestation • Erosion • Climate change/ global warming 	<ul style="list-style-type: none"> • Practice afforestation programs to promote interception as well as infiltration. • Water harvesting programs 	<ul style="list-style-type: none"> • Contractor • Project Proponent • Site Manager/ SHE officer • Omuthiya Town Council
--------------------------------	--	--	---	---

4.8 Occupational Health and Safety Monitoring Program

The occupational health and safety monitoring program should include:

- ✓ Surveillance of the working environment:

Special Inn logistics cc should document compliance using a suitable combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards. Monitoring methodology, locations, frequencies, and parameters should be established individually for each task following a review of the hazards.

4.8 Emergency Preparedness and Response Plan (EPRP)

4.8.1 Fire

The proponent will develop specific fire boiler explosion and fighting procedures and trained special fire and explosion employees to deal with fires at the project site. Fire warning systems (detection systems and alarms) and firefighting equipment (fire extinguishers) will be installed onsite.

The following steps will be taken:

- Appropriate Fire signage around the site.
- Small fires that can be safely extinguished should be put out using the appropriate extinguisher.
- If a fire grows too big to manage by portable extinguishers, emergency procedures will be initiated which include calling the city fire brigade
- At all times, in the event of a fire the employees should be advised to remain calm;
- All personnel will be evacuated in the event of a fire outbreak or explosion.
- A responsible person will be appointed to lead the fire and explosion response team onsite, and also will be responsible for holding a roll call in the event of an evacuation.
- All staff will be trained on fire and explosion response procedures, and drills will be held regularly and the procedures reviewed for improvement.
- All firefighting equipment will be inspected for effectiveness and project premises will be inspected for degree of safety.

4.8.2 Medical treatment and emergencies

The proponent will employ the services of full-time medical personnel with OSH appropriate level of training to handle all medical issues (injuries/accidents, illnesses) throughout the construction phase of the project. The medical treatment and emergency procedures will be developed by this staff in consultation with the Project Manager. All emergency procedures will

comply with the Labour Act, safety and health regulations or requirements. The proponent will provide basic medical treatment equipment (ambulance) during construction phase.

4.8.3 Health and Safety Emergency prevention

- a. A Safety Health and Environmental Officer shall be employed at the site during construction phase of the project. All people to be employed at the proposed project site will be subjected to a medical assessment to evaluate their fitness for work. All contractors and subcontractors engaged Special Inn logistics, cc, shall be required to employ a Safety Health and Environmental Officer to assist in the identification of hazards and emergency situations
- b. Employees who are considered emotionally, physically and medically incapable of carrying out their job will not be allowed to operate or drive equipment/vehicles.
- c. The proponent will not permit any of its employees to operate, drive or operate any vehicles or equipment whilst under the influence of alcohol, drugs or any mind-altering medication/drugs.
- d. All employees working at the project site t should be able to read and understand the signs.
- e. All risks or hazards should be reviewed frequently, operating procedures updated as per need and communicated to all staff.
- f. All equipment and vehicles should be inspected and serviced to ensure there are in good working order.
- g. The proponent will develop safety, health and environment procedures which will be updated and communicated to all employees.

4.8.4 Emergency prevention

- Employees who are considered emotionally, physically and medically incapable of carrying out their job will not be allowed to operate or drive equipment/vehicles.
- The proponent will not permit any of its employees to operate, drive or operate any vehicles or equipment whilst under the influence of alcohol, drugs or any mind-altering medication/drugs during the construction phase of the project.

- All employees working at the site should be able to read and understand the signs.
- All risks or hazards should be reviewed frequently, operating procedures updated as per need and communicated to all staff.
- All storage facilities, equipment and vehicles should be inspected and serviced to ensure there are in good working order.

4.8.5 EMP Conclusion and Recommendations

Conclusion

Arising from the analysis by the consultants, the proposed project is unlikely to generate any irreversible or permanent negative impacts if the EMP is operationalized. The report has provided adequate mitigation measures for the identified temporary impacts. It is therefore recommended that the proposed project be approved provided that the proposed recommendations given are strictly adhered to.

Recommendations

In order to sack negative impacts that may emanate from the construction and operation of a shopping mall, contents of this EMP must be adhered to. Part X of the EMA of 2007 under general provisions subsection 56 (2), *A regulation made under subsection (1) may prescribe a penalty for any contravention of, or failure to comply with any provision thereof, not exceeding a fine of N\$100 000 or imprisonment for a period not exceeding 10 years or to both such fine and such imprisonment.*

The following recommendations should be strictly adhered to. In order to alleviate any negative impacts that may emanate from the construction and operation phases of the proposed project development under discussion.

- ❖ Relevant and cost-effective management, which ensures hiring of qualified personnel; on serviceable components like electricity, fuel pumps, underground tanks, contracted personnel and waste recycling companies,
- ❖ Mitigation measures should be put in place always,
- ❖ Consulting Environmental Engineers, Manufacturing and installing Engineers and

the Town council on issues that arose during Project life cycles and

- ❖ In the cases of decommissioning of the project, an application for decommissioning should be done with a qualified Environmental Engineer or consultant to the Ministry of Environment and Tourist

.....

Nyepuz Consultancy cc
Environmental Consultant

