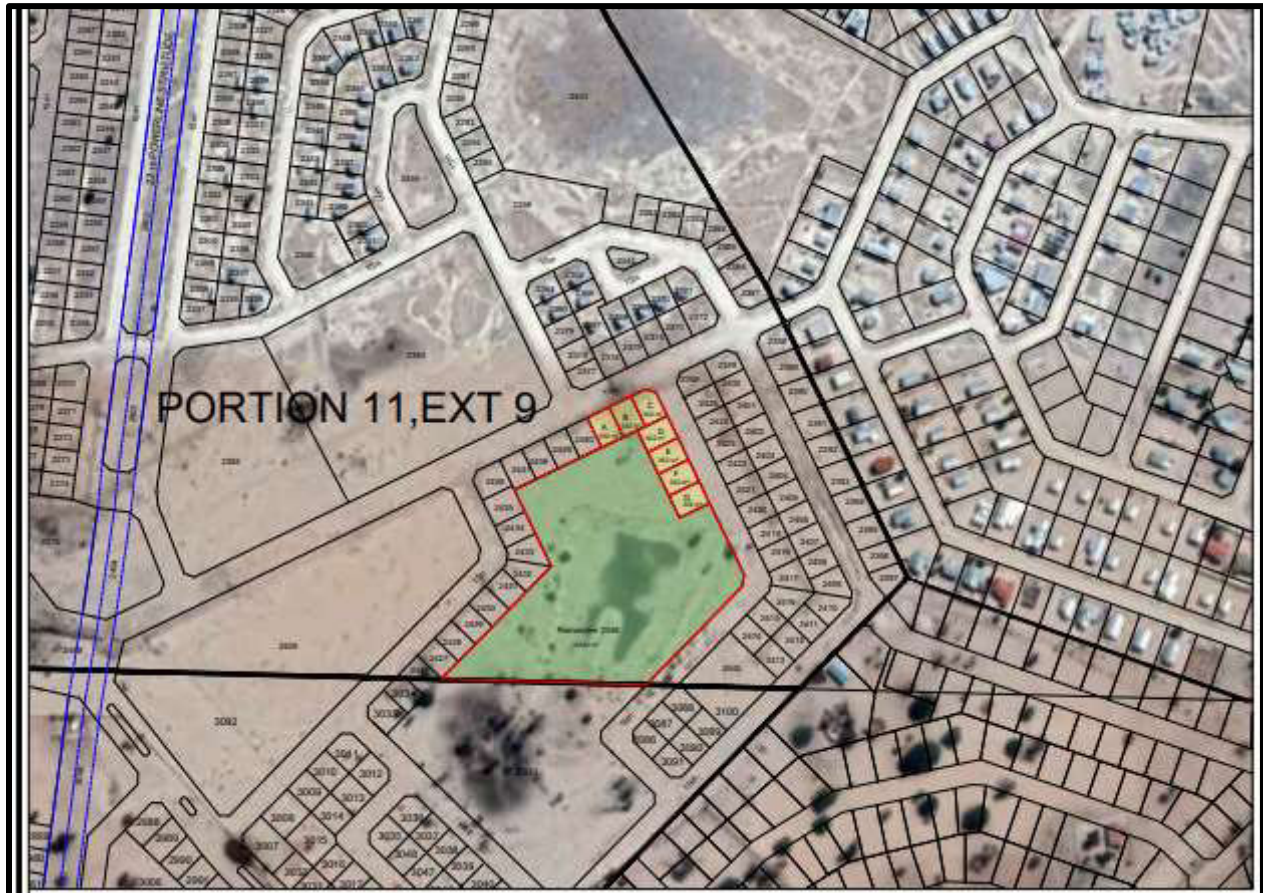


**ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE PROPOSED
SUBDIVISION OF ERF 2446, CLOSURE AND REZONING OF PORTIONS
A-G FROM “PUBLIC OPEN SPACE” TO “SINGLE RESIDENTIAL”
OKAHAO EXTENSION 9, OMUSATI REGION**



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The logo for Green Gain Consultants features a stylized green leaf above the text 'Green Gain' in a bold, green font, with 'Consultants' in a smaller, grey font below it.

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DOCUMENT DESCRIPTION

PROJECT NAME **PROPOSED SUBDIVISION OF ERF 2446, CLOSURE AND REZONING OF PORTION “A TO G” FROM “PUBLIC OPEN SPACE” TO “SINGLE RESIDENTIAL”**

LOCATION: **EXTENSION 9, OKAHAO**

DOCUMENT **ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

LOCAL AUTHORITY: **OKAHAO TOWN COUNCIL**

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APPLICATION: **APP001226**

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LIST OF ACRONYMS

DEA	Directorate of Environmental Affairs
DWA	Directorate of Water Affairs
EAP	Environmental Assessment Policy
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance certificate
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
IAP	Interested and Affected Parties
MAWF	Ministry of Agriculture Water and Forestry
MEFT	Ministry of Environment, Forestry and Tourism
MoHSS	Ministry of Health and Social Services
MoLER	Ministry of Labor and Employees Relations
MWT	Ministry of Works and Transport
NamPower:	Namibia Power Corporation (Pty) Ltd.
NamWater:	Namibia Water Corporation (Pty) Ltd
PHE	Public Health and Environmental Act

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

Epangelo General Dealer cc hereinafter referred to as the Proponent or Developer has been approved by the Okahao Town Council to purchase a portion of Erf 2446 located in Okahao Extension 9. Approval is subject to conditions that the proponent follow town planning procedures by applying for the subdivision of Erf 2446, Okahao Extension 9 into seven portions (A-G) & remainder and subsequent Closure and Rezoning of the resulting portions from “Public Open Space” to “Single residential” for the development of houses.

1992).

In terms of the Environmental Management Act of 2007 (Schedule 5.1) and its regulations (GN No. 30 of 2012), the permanent closure of a Public Open Space may not be undertaken without an Environmental Clearance Certificate (ECC) being obtained.

The scope of service undertaken by the EAP included the preparation of the Scoping Report and the EMP. The purpose of the Environmental Management Plan (EMP) is to outline the identified mitigations measures during Development/Construction and Operation Phase of the project. The Developer should play a pivotal role in implementing this EMP.

1.2 Project description

The proposed activities entail the following:

- Subdivision of Erf 2446, measuring 20,896m², into Portion “A to G” and Remainder
- Permanent closure of portion “A to G”, with a combined measurement of 2464m² as a “Public Open Space”
- Rezoning of Portion, A to G from “Public Open Space” to “single residential”
- Installation of Municipal Services and Development of residential properties
- Remainder of Erf 2446, measuring 18432m² to remain as a Public Open Space

1.3 Purpose of the EMP

This EMP synthesises all the proposed mitigation and monitoring measures, laid out according to the various stages of the project life cycle, with clearly defined follow-up actions and responsibility assigned to specific actors. It provides a link between the impacts identified in the EIA process and the required environmental management on the ground during the project implementation and operation. It is important to note that an EMP is a legally binding document and has been drafted in accordance with the Environmental Management Act (No. 7 of 2007) and its Environmental Impact Assessment Regulations (2012).

This plan describes the mitigation and monitoring measures to be implemented during the following phases of these developments:

- **Planning and Design** – the period, prior to the drafting of construction tender documents, during which preliminary legislative and administrative arrangements, necessary before any erven are sold, are made and detailed engineering designs/drawings are carried out;
- **Construction** – the period during which Developer, having secured the necessary legislative and administrative arrangements, prepare construction tender documents for the development of services infrastructure to service the various erven as well as any other construction process(s) within the development areas. It also includes the period during which the services infrastructure will be constructed to service the various erven within the townships; and
- **Operation and Maintenance** – the period during which the services infrastructure will be fully functional and maintained by the Municipality as deemed necessary.

Given the nature of this development, it is anticipated that all the infrastructure would be permanent, hence decommissioning and rehabilitation is not envisaged for these developments.

2. RESPONSIBILITIES

The Developer should play a pivotal role in implementing this EMP. This section provides a manner in which the EMP is to be implemented and also outlining responsibilities of all parties involved perform their respective roles in accordance with this EMP.

2.1 The Developer – Epangelo General Dealer cc

It is the core responsibility of the Developer to ensure the successful implementation of this EMP and any condition to be imposed by the Ministry of Environment, Forestry and Tourism (MEFT). However, the implementation of this EMP also requires the involvement of various role players, each with specific responsibilities to ensure that the project is operated in an environmentally sensible manner.

Responsibilities

- a) Implement the final EMP after approval by DEA and ensure the project comply with the EMP and conditions therein.
- b) Provide Environmental training and awareness on the EMP to all contractors, sub-contractors and employees involved in the development.
- c) Notify MET and EAP of any proposed changes to the EMP.
- d) Appoint the responsible official/s to take the responsibility of the following;
 - Regular inspections and monitoring and review of the on-site environmental management and implementation of the EMP by the maintenance team or Contractor and sub-contractors.
 - Audit the implementation of the EMP on a monthly basis
 - Keep environmental records, Compile and submit Environmental Reports to the Authority every after three (3) years for the renewal of the Environmental Clearance Certificate.
- e) In the absence of this appointments, the Developer shall collectively take responsibility.

2.2 Project Manager

The proponent should appoint a project manager or a resident Engineer to oversee the implementation of the project during the planning & design and construction phases. The project manager will ensure that all contractor and sub-contractors are complying with the content of this EMP. The project manager must ensure that are contractors, sub-contractors and all Employees involved are aware of this EMP by providing a brief training. The project manager will also keep record of incidences during and take corrective actions i.e. issuing of penalties in case of transgressions etc. during project implementation.

2.3 The Contractor and Sub-contractors

It is expected that various contractors and sub-contractors will be appointed at various stages and for various tasks during different phases of this project. All appointed contractors and sub-contractors involved in the project shall ensure to comply with the EMP and its conditions, thus the proponent must ensure that a copy of the EMP is given to all contractors involved. The contractor upon receiving this EMP should ensure;

- To undertake their activities in an environmentally sensitive manner and within the context of this EMP
- To undertake good housekeeping practices during duration of their activities
- To ensure that adequate environmental awareness training take place in the language of their Employees.

2.4 Authorities:

- **Okahao Town Council:** The Okahao Town Council should provide supervisory and monitoring roles in order to ensure compliance of their respective regulations and laws by renewal or enforcement of respective laws. Of relevance to this project are the Ministry of Urban Rural Development and Ministry of Environment and Tourism.
- **Ministry of Urban Rural Development:** MURD will provide approval through the NAMPAB for registration of the town planning procedures as per the Town Planning Ordinance (Ordinance 188 of 1965).
- **Ministry of Environment, Forestry and Tourism (MEFT):** MEFT should conduct an Environmental compliance monitoring should any instances of non-compliance be found, this must be brought to the attention of the site foreman, along with recommended measures for rectifying the non-compliance.

2.5 The Environmental Assessment Practitioner (EAP)

The EAP shall be responsible for the compilation and submission of Environmental Reports to the competent Authority (MET) and provide additional information on this study whenever required by any party (IAPs, Stakeholders, Authority or Proponent) and be available to provide training on this EMP on appointment by the proponent. Lastly the EAP should be available to make amendments or additions to this EMP in accordance with the recommendations of the EIA study.

3. ENVIRONMENTAL MANAGEMENT REQUIREMENTS

The successful implementation of this EMP is depends on various factors such as training and awareness, a good record keeping, enforcement, monthly reporting and many more.

3.1 Environmental awareness training

All Employees, contractors and sub-contractors involved in any work at the project should be briefed on their obligation towards environmental protection in terms of the EMP prior to work commencing. The briefing should be done by the proponent prior to any work in the form of an onsite talk. Record of such trainings should be kept.

3.2 Record keeping

There should be an up-to-date filing system for the project whereby method statements, environmental incidents report, training records, audit reports and public complaints register are kept. It is advised that photographs of the site should be taken as a visual reference. These records should be kept for a minimum of **two (2) years**.

3.3 Enforcements: Non-compliance and penalties

This EMP upon approval by MEFT shall be considered a legally bidding document. In case of transgressions and non-compliance to the EMP, the transgressor should be liable to a penalty fine. Transgressions should be recorded in a dedicated register and be filed. The project manager shall issue the penalties in terms of the severity of the environmental damages.

Adherence to this EMP during both the Development and Operation phases of the project will ensure that the environmental impacts associated with the project will be mitigated to a greater extent thus promoting sustainable development. The commitment and co-operation of the identified responsible person(s) will ensure effective implementation of the EMP.

3.4 Environmental Reports

The proponent shall, in the project completion report, indicate the environmental performance and matter of incidental. The EAP (upon appointment by Proponent) shall conduct regular monitor of project activities during all project phases and keep records. These records must be available when required by MEFT when deemed necessary.

4. LEGAL REQUIREMENTS

As part of implementation of this EMP, the proponent must comply with the requirements of various national legislations and municipal by-laws as outlined in the Scoping Report and also briefly presented here below.

Table 1: Applicable National Laws

LEGISLATION	PROVISION AND REQUIREMENTS
Constitution of the Republic of Namibia (1990)	<p>National objectives</p> <ul style="list-style-type: none"> -Guarding against overutilization of biological natural resources, - Limiting over-exploitation of non-renewable resources, - Ensuring ecosystem functionality, - Maintain biological diversity. <p>Ensure sustainable development by implementing a project that is environmentally friendly, economic viable and social acceptable.</p>
Local Authorities Act, No. 23 of 1992 as amended	<p>Provide for the determination, for purposes of local government, of local authority councils; the establishment of such local authority councils; and to define the powers, duties and functions of local authority councils; and to provide for incidental matters.</p> <p>According to;</p> <ul style="list-style-type: none"> • Section 94 of the Act, the collection and disposal of waste is the responsibility of local and regional authorities. The Act also gives power to the Local Authorities to establish by-laws. • Section 50 (1) (c) Any person with objection should do so in writing within 14 days • Section 50 (3) (a) (ii) Notice should be given to all interested and affected parties for the proposed closure of POS
Pollution Control and Waste Management Bill, 2003	<p>This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management.</p> <p>The bill provide framework for a multitude administration on pollution control and waste management in the country. Each authority identified by the bill shall play its respective roles.</p>
Environmental Management Act, No.07 of 2007	<p>Ensuring that the significant effects of activities on the environment are considered carefully and in time. To promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment.</p> <p>The proponent shall inform the competent authority of any changes to the proposed housing project, to see if an EIA is required or not.</p>
Public Health and Environmental Act, 2015	<p>The objectives of the PHE Act are to;</p> <ul style="list-style-type: none"> • Promote public health and wellbeing • Prevent injuries, diseases and disabilities • Protect individuals and communities from public health risks • Encourage community participation in order to create a healthy environment • Provide for early detection of diseases and public health risks <p>Section 2 requires that a). “Every local authority must take necessary reasonably and applicably measures to maintain its local authority area at all times in a hygienic and clean condition” b). Prevent occurrence of a health nuisance, unhygienic condition, an offensive condition or any condition which could be harmful or dangerous to the health of a person within its local authority or the local authority area of another local authority”</p>
Labour Act (No 11 of 2007)	<p>To establish a comprehensive labour law for all Employers and Employees; to entrench fundamental labour rights and protections. Regulate basic terms and conditions of</p>

	<p>Employment; ensure the health, safety and welfare of Employees; to protect Employees from unfair labour practices; to regulate the registration of trade unions and Employers' organisations; to regulate collective labour relations; to provide or the systematic prevention and resolution of labour disputes;</p> <p>Any Employment provided whether by the proponent or by contractor at this site i.e. Security Services must be in accordance with the Labour Act.</p>
Employment Service Act, 8 of 2011	<p>To provide for the establishment of the National Employment Service; to impose reporting and other obligations on certain Employers and institutions; to provide for the licensure and regulation of private Employment agencies; and to deal with matters incidental thereto.</p> <p>Any Employment provided whether by the proponent or by contractor at this site must be in accordance with the Labour Act.</p>
Water Resources Management Act 2004	<p>This Act provides provision for the control, conservation and use of water for domestic, agricultural, urban and industrial purposes. In addition the Act clearly gives provision that pertain with license or permit that required abstracting and using water as well as for discharge of effluent.</p> <p>The effluent of human waste under this framework is the main focus. The use of mobile toilets during construction phase should be properly positioned.</p>
National Heritage Act 27 of 2004	<p>The Act provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.</p> <p>Any material of cultural, heritage or archaeological importance shall be reported to the National Heritage Council (NHC) in accordance with this Act</p>
National Forestry Act, No. 12 of 2001	<p>This Forest Act 12 of 2001 requires that tree species and any vegetation within 100m from a watercourse may not be removed without a permit (S22 (1)).</p> <p>Since there is no forest affected by the proposed development, this Act does not apply in this case.</p>
Atmospheric Pollution Prevention Ordinance, no. 11 of 1976	<p>To provide for the prevention of the pollution of the atmosphere, and for matters incidental thereto. The Ordinance deals with administrative appointments and their functions; the control of noxious or offensive gases; atmospheric pollution by smoke, dust control, motor vehicle emissions; and general provisions.</p> <p>According to the Ordinance, the Local Authority shall control and prevent atmospheric air pollution or emission of noxious or offensive gases by smoke.</p>
Hazardous Substance Ordinance of 1974	<p>This Ordinance provides for the control of toxic substance and thus also relevant for pollution control. It covers for the manufacturing, sale, use, disposal, dumping, importing and exporting of hazardous waste.</p> <p>Any use of hazardous substance must be in compliance with this ordinance</p>

5. IMPLEMENTING THE ESMP: ROLES AND RESPONSIBILITIES

The proponent should play a pivotal role in implementing this EMP while the Okahao Town Council, as relevant Local Authority and here referred as Town Council shall play a monitoring role during the planning, construction, and operation of the project. This section provides a manner in which the EMP is to be implemented and also outlining responsibilities of all parties involved perform their respective roles in accordance with this EMP.

Table 3: Management Plan: Development (Planning and Construction)

Environmental Impacts	Mitigation Measures	Roles and Responsibilities	
		Implementation	Monitoring
Impact on Biodiversity (flora and fauna)	<ul style="list-style-type: none"> • Sand and Gravel for backfilling must be obtained from approved burrow pits with ECC. • No animal including small mammals i.e. ground-burrowing squirrel etc. be killed on purpose. • Make provision for landscaping 	Developer	Town Council
Pollution to surface and groundwater	<ul style="list-style-type: none"> • No discharge of pollution in the watercourse • Clean up all leakage or spills (if occur) • Temporary construction housing must be provided with ablution facility that may be connected to municipal sewage system • Sewage pipelines must be of required standard and No Asbestos material may be used 	Contractor	Developer
Soil stability	<ul style="list-style-type: none"> • All gravel used for fill material be of G7 quality. • All fill material be compacted to 90% Modd AASHTO. • Construction of site services should be to the satisfaction of the appointed Consulting Engineer; thus a completion certificate is to be issued by The Engineer • All foundations to buildings constructed be certified by The Engineer. 	Contractor	Developer /Town Council
Visual intrusion	<ul style="list-style-type: none"> • Existing trees must be incorporated in the site layout design. • The site must be kept clear of building rubble and other waste • All material must be stored away from the site or in a temporary store room 	Contractor	Developer

	<ul style="list-style-type: none"> • The construction site must be condoned off during the entire construction period 		
Provision for Traffic management	<ul style="list-style-type: none"> • Make provision for road traffic control measures • Provide traffic regulation during construction phase • Limit driving speed for construction vehicles 	Developer/Contractor	Town Council
Water and Energy demand Management	<ul style="list-style-type: none"> • Commit to minimizing the use of water during construction phase • Make provision for Rainwater harvesting through gutters and storage drums • Make provision for renewable energy (Solar) 	Developer	Town Council
Waste Management	<ul style="list-style-type: none"> • The site should be kept tidy at all times • No waste may be buried or burned on site or anywhere else. • All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. • Separate waste containers/bins for hazardous and domestic/general waste must be provided onsite. The waste containers should be emptied after construction and removed from site to the waste disposal site. • Provide municipal refuse bins and ensure regular waste collection 	Contractor	Developer
Impact on Soil	<ul style="list-style-type: none"> • Gravel sand to be used for stabilization must be from approved burrow pits or authorized suppliers • Do not park vehicle or implement with leaks for too long at the site • All vehicles must be serviced offsite • Contaminated soil must be cleaned up 	Contractor	Developer
Public and Occupational safety risks	<ul style="list-style-type: none"> • All employees must be provided with PPE • The site must be condoned off and be out of bound for animal and people • Provide signature at the construction site • Limit speed for construction vehicles • Make use of flagmen to regulate traffic • Employees must be given training in line with their job 	Contractor	Developer
Nuisance (Noise and Vibration)	<ul style="list-style-type: none"> • Construction activities must be limited to normal working hours (07-17:00), avoid working during odd hours • Limit number of Machinery, Equipment operating at the site 		
Employment creation	<ul style="list-style-type: none"> • Employ as many local people as possible 	Developer	Town Council
Economic prosperity	<ul style="list-style-type: none"> • Local contractors must be given a first priority • Materials should be sourced from local suppliers in the first attempt 	Developer	Town Council

Table 4: Proposed Mitigation Measures: Operation

Environmental Issue/Impacts	Mitigation Measures	Roles and Responsibilities	
		Implementation	Monitoring
Pollution of groundwater from contamination or leakages	<ul style="list-style-type: none"> •No direct discharge of pollution (waste water or solid waste) into the watercourse •Ensure that sanitary facilities are frequently cleaned and regularly monitored. •Monitor sewer connection and ensure adherence to standards 	Developer	Town Council
Increase Water and Energy demand	<ul style="list-style-type: none"> •Ensure supply of potable water in accordance Water Demand Plan •Harvest rainwater for use in gardening and other activities •Encourage us of renewable energy i.e. solar geysers •Enforce energy and water conservation measures 	Developer	Town Council
Aesthetic view of the area	<ul style="list-style-type: none"> •The site must be clear of litter and all waste must be removed and disposed of to the landfill site. •Spoil heaps should be flattened to the similar adjacent ground, to prevent soil erosion, thus encouraging natural vegetation. •All surfaces hardened due to construction must be ripped and material imported thereon be removed. •The original site topography should be restored where as much as possible. •Topsoil should be applied at cleared area and where material was stockpiled for this purposed. 	Developer	Town Council
Traffic impacts	<ul style="list-style-type: none"> • Ensure road signs at the intersection to the existing roads • Provide pedestrian crossing 	Town Council	Town Council
Waste generation	<ul style="list-style-type: none"> • All waste generated must be contained and properly gathered and collect as per local authority laws • Encourage waste segregation through a 3Bin system (Tins, Paper, Plastics) 	Developer	Town Council

