

Environmental Management Plan (EMP) for the proposed subdivision of Erf 4879 Swakopmund Extension 10 into 7 portions and reminder as a one-way street



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LIST OF ABBREVIATIONS AND ACRONYMS

BID:	Background Information Document
DEA:	Directorate of Environmental Affairs
EA:	Environmental Assessment
EAP:	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO:	Environmental Compliance Officer
EIA:	Environmental Impact Assessment
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
ESR:	Environmental Scoping Report
GG:	Government Gazette
GIS:	Geographic Information Systems
GN:	Government Notice
HIV:	Human Immunodeficiency Virus
I&APs:	Interested and Affected Parties
MEFT:	Ministry of Environment, Forestry, and Tourism
PPE:	Personal Protective Equipment
PR	Proponent Representative

1. INTRODUCTION

Mr. Wilhelm Christiaan Smith, the owner of Erf 4879, Swakopmund Extension 10, also hereinafter referred to as the proponent intends to apply for the subdivision of the property into Seven (7) Portions and Reminder as a One-Way Street. Erf 4879 measures approximately 13143m² in extent and is zoned Industrial as per the Swakopmund Zoning Scheme.

The proponent has appointed PlanTek Town and Regional Planner to apply to the Swakopmund Municipality in terms of the Urban and Regional Planning Board (URPB) in terms of Section 105(1)(a) & (e) and to apply certain statutory town planning procedures need to be applied in terms of Section 50(3)(a)(ii) and Section 50(3)(a)(iv) of the Local Authorities Act, 1992 (Act No. 23 of 1992).

In terms of the Environmental Management Act (EMA) No. 7 of 2007 (Schedule 5.1) and its regulations (GN No. 30 of 2012), The creation of a public road (street) cannot be undertaken without any EIA being undertaken and an ECC being obtained.

Green Gain Consultants cc has been appointed to attend to and complete an Environmental Scoping Assessment and an Environmental Management Plan (EMP) to obtain an Environmental Clearance Certificate (ECC) on behalf of the proponent. This document details the Environmental Management Plan (EMP) as informed by the Environmental Impact Assessment (EIA) conducted for the townships to be established as outlined in the Scoping Report.

This EMP synthesizes 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 responsibilities 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 by 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, before 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 Swakopmund Municipality, having secured the necessary legislative and administrative arrangements, prepares 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.

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

The commitment described here form part of the Environmental Clearance Certificate (ECC) between Swakopmund Municipality and the state, as represented by the Ministry of Environment, Forestry and Tourism (MEFT). Non-compliance is considered illegal and may have legal consequences.

The amendment, transfer, or renewal of the ECC should be communicated to the Environmental Commissioner as stipulated in the (EMA) of 2007 (S 39-42) and its EIA Regulations (S 19-20). Any changes to this EMP will require an amendment to the ECC for these developments. When approved by DEA, this draft EMP will be considered the final. It should be read in conjunction with the EIA report and contract documentation to ensure the contractor works in an environmentally sensitive manner, thus ensuring that the impacts on the environment and neighboring community are kept to a minimum. Should there be any conflict between the EMP and project specifications, then the terms herein shall be secondary.

2. PURPOSE OF THE EMP

The purpose of this document is to guide environmental management throughout the lifecycle stages of the proposed development, namely: planning and design, construction, and operation & maintenance. Furthermore, it is to ensure that impacts on the environment due to the proposed development are limited. The EMP has the following objectives:

- Assess the suitability of the proposed developments on the proposed development site
- To identify possible impacts of the proposed activity on the environment and mitigation thereof.
- To provide information on construction activities associated with the identified environmental issues.
- To provide guidelines for the management of the identified environmental issues; and
- To provide guidelines to the responsible person to follow appropriate contingency plans in the case of possible impacts.

3. RESPONSIBILITIES

Swakopmund Municipality (the Proponent/Developer) is ultimately responsible for the implementation of the EMP. The Proponent may delegate this responsibility at any time, as they deem necessary, from construction and operation & maintenance. The implementation of this EMP requires the involvement of several key individuals, each fulfilling a different but vital role to ensure sound environmental management during each phase of these developments. The following positions and their respective responsibilities are outlined below:

3.1 The Developer

Responsibility: To implement the final EMP document approved by the DEA before the commencement of the planning phase and to ensure that the proposed development complies with the EMA requirements and the Environmental Authorization.

3.2 The Proponent's Representative

If the Proponent does not manage all aspects of the planning & design, construction, and operation & maintenance phase activities, referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for both phases. Alternatively, the Proponent may decide to assign a separate PR for each developmental phase (planning & design, construction and operation & maintenance).

During the Planning & Design and Construction (tender preparation) Phase, the PR will have the following responsibilities regarding the implementation of this EMP:

- Ensuring that the necessary legal authorizations have been obtained.
- Developing, managing implementation of, and maintaining all Development Guidelines.
- To ensure the contractor signs the EMP before the commencement of the development.
- Ensure that the management requirements inform the planning and design of the relevant infrastructure developments (i.e., that these requirements are considered during the Planning and Design Phase, not as an afterthought); and
- Ensure that the management requirements inform the preparation of tender documents for the construction of the relevant infrastructure developments.

During the Construction and Operation & Maintenance Phases the PR shall assist the ECO where necessary and will have the following responsibilities regarding the implementation of this EMP:

- Ensuring that the necessary legal authorizations and permits have been obtained by the Contractor.
- Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO where necessary.
- Management and monitoring of individuals and/or equipment on-site in terms of compliance with the EMP.
- Issuing fines for the transgression of site rules and penalties for contravention of the EMP; and
- Providing input into the ECO's ongoing internal review of the EMP. This review report should be submitted every month to the Proponent.

3.3 Environmental Control Officer

The Environmental Control Officer (ECO) should be a competent person appointed by the Proponent. The ECO is the Developer's on-site representative primarily responsible for the monitoring and review of on-site environmental management and implementation of the EMP by the Contractor. Failure to appoint an ECO, the duties fall upon the proponent.

Responsibility:

- Assisting the PR in ensuring that the necessary legal authorizations have been obtained.
- Management and facilitation of communication between the PR, Proponent, the Contractor, and I&APs about this EMP and matters incidental thereto.
- Conduct monthly site inspections of all construction and/or infrastructure maintenance areas about compliance with this EMP.
- Monitor and verify adherence to the EMP (audit the implementation of the EMP) and verify that environmental impacts are kept to a minimum.
- Taking appropriate action if the specifications of the EMP are not adhered to.
- Assisting the Contractor in finding environmentally responsible solutions to problems.
- Advising on the removal of person(s) and/or equipment not complying with the provisions of the EMP in consultation with the PR.
- Recommending the issuing of fines for transgressions of site rules and penalties for contraventions of the EMP; and
- Undertaking an annual review of the EMP and recommending additions and/or changes to the document.

3.4 The Contractor & Sub-contractor (s)

It is envisaged that various contractors might be appointed at various times for various tasks throughout the life cycle (construction through to operation & maintenance phase) of this project. To ensure sound environmental management, the relevant sections of this EMP

should be included in all contracts of work outsourced thus legally binding all appointed contractors and sub-contractors.

Responsibility:

- To comply with the Environmental Authorization and undertake construction activities in an environmentally sensitive manner and rehabilitation of the site.
- To undertake good housekeeping practices during the duration of the project.
- To ensure that adequate environmental awareness training takes place in the employees' language of choice.

3.5 The Environmental Assessment Practitioner (EAP)

The EAP is responsible to conduct the required EA which includes compiling an EMP for the proposed development. The EMP is to be submitted with the scoping EA report as supporting documents to the application for an ECC to the Environmental Commissioner at MEFT: DEA. This EMP will be used by Contractors and Engineers as well as the Proponent in guiding them during the construction and operation of the townships to ensure that the impacts on the environment are limited or avoided altogether. Lastly, the EAP should be available to make amendments or additions to this EMP by the recommendations of the EIA study.

4. LEGAL REQUIREMENTS

The contents of the EMP must meet the requirements S8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the proposed activity on the environment throughout the project life cycle. The Swakopmund Municipality is advised to make use of each applicable legislation listed in the table below in addressing different aspects of the planned development.

Table 1: Applicable and relevant legislation at various phases throughout the project lifecycle

LEGISLATION	PROVISION	PROJECT IMPLICATIONS
Water resources management act 2004	This act provides provision for the control, conservation, and use of water for domestic, agricultural, urban and industrial purposes. In addition, the Act gives provisions that pertain to license or permit that required abstracting and using water as well as for discharge of effluent. The effluent of human waste under this framework is the focus; hence mobile toilets are earmarked to be used to avoid any seepage into an existing watercourse, infiltration into the soil, etc.	To be complied with
Draft Urban and Regional Planning Bill and Regulations	It is envisaged that the current system of land use planning and development control in Namibia will be comprehensively reformed by the enactment of the draft Urban and Regional Planning Bill and regulation. The Bill provides for the establishment of national, regional, and urban structure plans, and the development of zoning schemes. It also deals with a variety of related land use control issues such as the subdivision and consolidation of land and the establishment and extension of urban areas.	To be complied with
Pollution Control and Waste Management Bill	This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as provide for general waste management. This Bill licenses discharge into watercourses and emissions into the air.	To be complied with
National Heritage Act 27 of 2004	Heritage resources to be conserved in development. (National Heritage of Namibia)	To be complied with
Labour Act (No 11 of 2007)	135 (f): "the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery in connection with the structure of such buildings of otherwise to prevent or extinguish fires, and to ensure the safety in the event of a fire, of persons in such	To be complied with

	building;" (Ministry of Labour and Employment Creation)	
Sewerage and Drainage Regulations (amendments) Local authorities Regulations	Affords the prevention of pollution and environmental damage caused by the improper construction of sewerage and water pipelines in drainage lines.	To be complied with
Noise Control Regulations	It is essential to ensure that before any development project is approved and undertaken, an assessment or evaluation of the expected noise level is done.	To be complied with
Soil Conservation Act No. 76 of 1969	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Town Planning Ordinance No. 18 of 1954	Subdivision of land situated in any area to which an approved Town Planning Scheme applies must be consistent with that scheme (S31).	The proposed land use of the project site must be consistent with the Swakopmund Town Planning Scheme.
Townships and Division of Land Ordinance No. 11 of 1963	Details the functions of the Township Board including what they consider when receiving an application for Township Establishment (S3).	The proposed layout and land use should be informed by environmental factors such as water supply, soil, etc. as laid out in Section 3.

5. MANAGEMENT REQUIREMENTS

5.1 Method Statement

A method statement outlines construction activities to be undertaken with mitigation measures, which should be prepared by all contractors. The contractor must give a written statement to the resident engineer at least two weeks before the activity so that any irregularities can be handled before construction commences and communicated to the employees. The format of the method statement should indicate the following:

- Construction and Operational Procedures
- Materials and Equipment used
- How and where materials will be stored
- When actions will be undertaken

Based on the EMP specifications, the following method statements are required as a minimum:

- Site clearing
- Site layout and establishment
- Storage of hazardous substances and accidental spillages of hazardous substances
- Cement mixing
- Waste management procedures
- Wastewater management procedures
- Traffic accommodation
- Erosion remediation
- Fire control and emergency procedures

5.2 Environmental Awareness Training

All contractors should ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers and new employees receive an induction presentation on the importance and implications of the EMP before the work commencing. The presentation should be conducted by the ECO, in the employees' language of choice.

5.3 Record Keeping

The Contractor should keep records of all environmental training sessions, including names, dates and the information presented. Records of environmental incidents report training records, audit reports, and public complaints register should be kept at the site office during the period of the project. It is advised that photographs of the site should be taken before, during, and after construction as visual references. These records should be kept for a minimum of two (2) years after completion of the project.

5.4 Non-compliance and Penalties

In case of transgressions and non-compliance to the EMP by the contractor, there should be a penalty fine. Transgressions should be recorded in a register and be kept at the site office for the duration of the project. The resident engineer will issue the penalties in terms of the severity of the environment.

Adherence to this EMP during construction will ensure that the environmental impacts associated with the proposed development 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 pre-construction and post-construction.

6. IDENTIFIED IMPACTS AND MITIGATIONS

The following management tasks as detailed in the tables below need to be carried out during the planning & design and before the preparation of tender documents for the construction of services infrastructure. These management requirements are also applicable for the period during which detailed engineering designs/drawings are carried out.

Table 2: Planning, Design and Construction Management actions

Environmental Impacts	Mitigation Measures	Roles and Responsibilities	
		Implementation	Monitoring
Impact on Biodiversity (flora and fauna)	<ul style="list-style-type: none"> Only vegetation directly affected must be cleared No animal including small mammals i.e., ground-burrowing squirrel etc. be killed on purpose. Make provision for culverts to allow free flow of stormwater during rainy season. 	Town planner Contractor	Swakopmund Municipality
Visual intrusion	<ul style="list-style-type: none"> 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 storeroom. The construction site must be condoned off during the entire construction period. 	Contractor	Swakopmund Municipality
Provision for Traffic management	<ul style="list-style-type: none"> Make provision for road traffic control measures i.e., intersections. Provide traffic regulation during construction phase. Insert speed calming measures Make use of flagmen to regulate traffic 	Town Planner Contractor	Swakopmund Municipality

Water and Energy demand Management	<ul style="list-style-type: none"> • Commit to minimizing the use of water during construction phase. • Make provision for renewable energy • Prevent contamination of surface water runoff 	Contractor	Swakopmund Municipality
Waste Management	<ul style="list-style-type: none"> • The site should be always kept tidy. • No waste may be buried or burned on site or anywhere else. • All domestic and general construction waste produced daily should be cleaned and contained daily. • Separate waste containers/bins for hazardous and domestic/general waste must be provided onsite. • Provide refuse bins and ensure regular waste collection (weekly) 	Contractor	Swakopmund Municipality
Impact on Soil	<ul style="list-style-type: none"> • Gravel sand to be used for road construction must be from approved borrow 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. • 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 must be removed 	Contractor	Swakopmund Municipality
Public and Occupational safety risks	<ul style="list-style-type: none"> • All employees must be provided with Personal Protective Equipment (PPE) • The site must be cordoned off and be out of bound for animal and people. • Provide signage at the construction site. • Employees must be given training in line with their job 	Contractor	Swakopmund Municipality
Employment creation	<ul style="list-style-type: none"> • Employ as many local people as possible 	Proponent	Swakopmund Municipality
Economic prosperity	<ul style="list-style-type: none"> • Local contractors must be given a priority. • Materials should be sourced from local suppliers in the first attempt 	Proponent	Swakopmund Municipality

The following mitigation measures should be complied with and carried out during any maintenance works associated with the services infrastructure within the planned development areas.

Table 3: Operation and Maintenance Management action

Environmental Issue/Impacts	Mitigation Measures	Roles and Responsibilities
Pollution of groundwater	<ul style="list-style-type: none"> • No direct discharge of pollution (wastewater or solid waste) into the watercourse • Use environmentally friendly deicer for road marking. • Clean-up all leakages, spillages • Do not discharge waste directly in the soil 	Swakopmund Municipality
Impact of surface drainage	<ul style="list-style-type: none"> • Provide routine maintenance to drainage channels 	Swakopmund Municipality
Impact on water	<ul style="list-style-type: none"> • Prevent contamination surface water. • Enforce water conservation measures during road maintenance works 	Swakopmund Municipality
Impact to the soil	<ul style="list-style-type: none"> • Use environmentally friendly deicer for road marking. • Avoid, prevent any case of soil erosion by ensuring proper stormwater management. 	Swakopmund Municipality
Aesthetic view of the area	<ul style="list-style-type: none"> • The site must be clear of litter. • All waste must be removed and disposed of to the landfill site. • Plant ornamental vegetation to enhance the aesthetic view. • Provide routine maintenance to the road infrastructures, signatures markings etc. 	Swakopmund Municipality
Traffic impacts	<ul style="list-style-type: none"> • Ensure road signs and markings at the road intersection • Provide and maintain pedestrian crossing 	Swakopmund Municipality
Waste generation	<ul style="list-style-type: none"> • Provide street litter bins. • Ensure regular picking up and street sweeping 	Swakopmund Municipality

7. CONCLUSION

Based on the findings of this EIA study and proposed mitigation measures outlined in this EMP, Green Gain Consultants cc is confident that it will not result in appreciable environmental impacts, provided that this EMP is implemented and that all the legal requirements pertaining to this development are complied with.

Upon approval by the authorities, this EMP shall be considered legally binding and any deviation or transgression is punishable by law as per the Environmental Management Act, No. 07 of 2007. A copy of this EMP shall be always kept by the proponent or responsible person/department.

It is recommended that an Environmental and Social Management Plan (ESMP) for the existing Swakopmund airport be prepared to avoid, lessen or mitigate potential negative impacts associated with the existing and the proposed development.

Although the implementation of this EMP requires a multitude of administration, the project proponent should play a pivotal role in its implementation. The Municipality of Swakopmund should therefore ensure proper coordination with other stakeholders and may provide training to all parties involved when necessary. The proponent should also ensure to avail necessary resources (i.e., human, financial, etc.) and synergies the implementation of this EMP.

Lastly, this EMP is valid until the project has been successfully implemented and thus the competent authority is mandated to conduct regular monitoring and inspections at different project phases.