

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

ENVIRONMENTAL SCOPING REPORT

PREPARED FOR:

PROPONENT

Mr. Wilhelm Christiaan Smith

P. O. Box 30410

Windhoek

PREPARED BY:

The logo for Green Gain Consultants features a stylized green leaf icon above the text "Green Gain" in a bold, sans-serif font, with "Consultants" in a smaller, lighter font below it.



+264 81 142 2927



info@greegain.com.na



<https://www.greengain.com.na>

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DOCUMENT INFORMATION

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Client: **Mr. Wilhelm Christiaan Smith**

P. O Box 30410

Windhoek

Namibia

Project location: Swakopmund

Namibia

Report title: Environmental Scoping Report (Final)

EAP: Green Gain Consultants cc

J. K Amushila (Lead EAP)

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List of Abbreviations and Acronyms

BID:	Background Information Document
EAP:	Environmental Assessment Practitioner
EA:	Environmental Assessment
ECC	Environmental Clearance Certificate
EIA:	Environmental Impact Assessment
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
NCAA	Namibia Civil Aviation Authority
GG:	Government Gazette
GN:	Government Notice
ESR:	Environmental Scoping Report
I&APs:	Interested and Affected Parties
MEFT:	Ministry of Environment, Forestry, and Tourism
PPE:	Personal Protective Equipment
SDF	Spatial Development Framework

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

Mr. Wilhelm Christiaan Smith, the owner of Erf 4879, Swakopmund Extension 10, intends to apply for the subdivision of the property into Seven (7) Portions and Reminder as a One-Way Street to provide access to the newly created portions.

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). 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) certain statutory planning procedures will also be applied.

The intended subdivision of Erf 4879 will result in a creation of a one-way-right of way (street). 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 an Environmental Impacts Assessment (EIA) study being undertaken.

Green Gain Consultants cc was appointed to conduct the EIA study and apply for the ECC from the Ministry of Environment, Forestry and Tourism (MEFT) for the creation of a one-way street resulting from the proposed subdivision of Erf 4879. This study will follow a multidisciplinary approach in line with the requirements of the Environment and Management Act (Act No. 07 of 2007) and its Regulations (GN No. 30 of February 2012).

1.2 Scope of the study

This scoping study was carried out in accordance with the Environmental Management Act No. 7 of 2007 and its EIA Regulations (GG No. 4878 GN No. 30). It indicates the description of the environment that may be affected by the activity and the way the activity may affect the environment.

The assessment process was undertaken using the following steps:

- Provision of a detailed description of the proposed activity.
- Identification of all policies, legislation, and guidelines that are relevant to the proposed development.
- Identification of existing environmental (both ecological and socio-economic) conditions of the receiving environment to identify potentially sensitive areas.
- Evaluation of the need and desirability of proposed development.
- Notification and consultation of I&AP's regarding the proposed development and provide them with a reasonable opportunity to participate during the process.
- Identification of potential environmental impacts the proposed development will have on the natural & urban environment and assess their significance; and
- Outlining management and mitigation measures in an EMP to minimize and/or mitigate potential negative impacts, which cannot be avoided.

This scoping report will be submitted to the Environmental Commissioner, as required by Section 27(3) of the Environment Management Act No 7 of 2007.

The following is vital as part of the scope of work:

a) **Environmental impacts (biophysical)**

- Impact on flora and fauna
- Impact on surface water and groundwater
- Impact on land capability
- Solid waste disposal
- Impact of the proposed and required infrastructure and services

b) **Socio-economic impacts**

- Impact on traffic
- Impact on the local economy
- Impact on existing land uses

1.3 The Environmental Assessment Practitioner (EAP)

Green Gain Consultants cc was established in 2012 and is based in Walvis Bay with skilled and experienced EAP's. The EAP's involved in this Environmental Assessment are summarized in table 1.

Table 1: EAP members assigned to the project

Environmental Assessment Practitioner (EAP): Green Gain Consultants cc	
Physical address	House No.1 C/O 18 th Road West and Conciliation Street Walvis Bay
Contact details	+264811422927 info@greengain.com.na
Lead EAP	Mr. Joseph Kondja Amushila

2. LEGAL FRAMEWORK

This section provides a review of applicable and relevant Namibian legislation, policies, and guidelines. This review serves to inform the Proponent and Developer of the requirements and expectations to be fulfilled before the proposed project commences. The findings of the abovementioned review in preparation of this scoping report for the proposed development are summarised below.

2.1 Environmental management requirements

The proposed subdivision and township establishment will trigger activities listed under the Environmental Management Act 7 of 2007 and the EIA Regulations (No. 03 of February 2012) as follows.

Project activities	Activities triggered	
	Category	Specific activity
<ul style="list-style-type: none">• Creation of streets and road networks on the newly extensions	No. 9. Infrastructure	10.2 The route determination of roads and design of associated physical infrastructure where. (a) It is a public road; (b) The road reserve is wider than 30 meters, or (c) The road caters to more than one lane of traffic in both directions

2.2 Applicable legislations

The pursuit of sustainability, concerning any development, is guided by a sound legislative and policy framework.

Table 2: Namibian Legislation relevant to the project

Legislation/ Policy/ Guideline	Relevant Provisions	Implications for this project
The Constitution of the Republic of Namibia (1990)	Article 95(i) recites: “The State shall actively promote... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future” Article 91(c) recites: “The functions of the Ombudsman shall be defined and prescribed by an Act of Parliament and shall include the following... the duty to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation, and destruction of ecosystems and failure to protect the beauty and character of Namibia”.	Through the implementation of the EMP, the proponent shall be advocating for sound environmental management as set out in the Constitution.
Environmental Management Act (No. 7 of 2007)	<ul style="list-style-type: none"> • Requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27). • Details principles that are to guide all EAs. 	The EMA and its regulations should inform and guide this EA process.
Environmental Impact Assessment Regulations GN 28-30 (GG 4878)	<ul style="list-style-type: none"> • Details requirements for public consultation within a given environmental assessment process (GN 30 S21). • Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15). 	
The Regional Councils Act (No. 22 of 1992)	<ul style="list-style-type: none"> • This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 “to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanization patterns, natural resources, infrastructure, land 	The relevant Regional Council is considered to be a stakeholder and was consulted during the EA process
Local Authorities Act (No. 23 of 1992)		The Swakopmund Municipality is the responsible Local Authority of the area in which the proposed development will be located.

	<p>utilization pattern and sensitivity of the natural environment”.</p> <ul style="list-style-type: none"> • The main objective of this Act is to initiate, supervise, manage and evaluate development. 	
Urban and Regional Planning Act No. 5 of 2018	<ul style="list-style-type: none"> • This Act aims to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralize certain matters relating to spatial planning; to provide for the preparation, approval, and review of the national spatial development framework, regional structure plans, and urban structure plans; to provide for the preparation, approval, review, and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land; and to provide for incidental matters. 	The Swakopmund Municipality must adhere to all applicable provisions of the Act.
Labour Act No. 11 of 2007	<ul style="list-style-type: none"> • Details various requirements regarding health and safety of labourers • Details requirements regarding minimum wage and working conditions. 	The Swakopmund Municipality should ensure that all contractors involved during the construction, operation, and maintenance of the proposed project comply with the provisions of these legal instruments.
Public Health Act No. 1 of 2015	Provide a framework for a structured uniform public and environmental health system in Namibia and provide for incidental matters. Part 9 prescribes procedures for Integrated Waste Management, while Part 10 calls for the prevention of creating Health Nuisances.	The Swakopmund Municipality should ensure compliance with the provisions of this legal instrument. A general obligation for the contractor not to pollute the environment
National Heritage Act No. 27 of 2004	Section 48(1) states that “A person may apply to the [National Heritage] Council [NHC] for a permit to carry out works or activities about a protected place or protected item”.	Any heritage resources discovered during construction and operations require a permit from the NHC for relocation.
Water Act No. 54 of 1956	<ul style="list-style-type: none"> • This Act prohibits the pollution of water and implements the principle that a person disposing 	The protection of groundwater resources should be a priority.

	<p>of effluent or waste has a duty of care to prevent pollution (S3 (k)).</p> <ul style="list-style-type: none"> • Provides for control and protection of groundwater (S66 (1), (d (ii))). • Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). 	Obligation not to pollute the environment and soil.
Water Resources Management Act (No. 24 of 2004)	<ul style="list-style-type: none"> • Provides provision for the control, conservation, and use of water for domestic, agricultural, urban and industrial purposes. • Deals with the provision of license/permit that are required for abstracting, using water, and discharge of effluent. 	
Soil Conservation Act No. 76 of 1969	<ul style="list-style-type: none"> • 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.
Road Ordinance 1972 (No. 17 of 1972)	<ul style="list-style-type: none"> • Width of proclaimed roads and road reserve boundaries (S3.1) • Control of traffic on the urban trunk and main roads (S27.1) • Rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads (S36.1) • Infringements and obstructions on and interference with proclaimed roads. (S37.1) • Distance from proclaimed roads at which fences are erected (S38) 	The limitations applicable on RA-proclaimed roads should inform the proposed layout and zonings where applicable.
Pollution Control and Waste Management Bill	<ul style="list-style-type: none"> • To prevent and regulate the discharge of pollutants to the air, water, and land. • To furthermore regulate noise, dust, and odor pollution; and to establish a system of waste planning and management 	The Swakopmund Municipality should ensure compliance with the provisions of this legal instrument.

3. PROJECT DESCRIPTION

3.1 Locality

Erf 4879 is in Swakopmund Extension 10 (Industrial area), on the following geographical coordinates -22.667429" S and 14.55387" E.

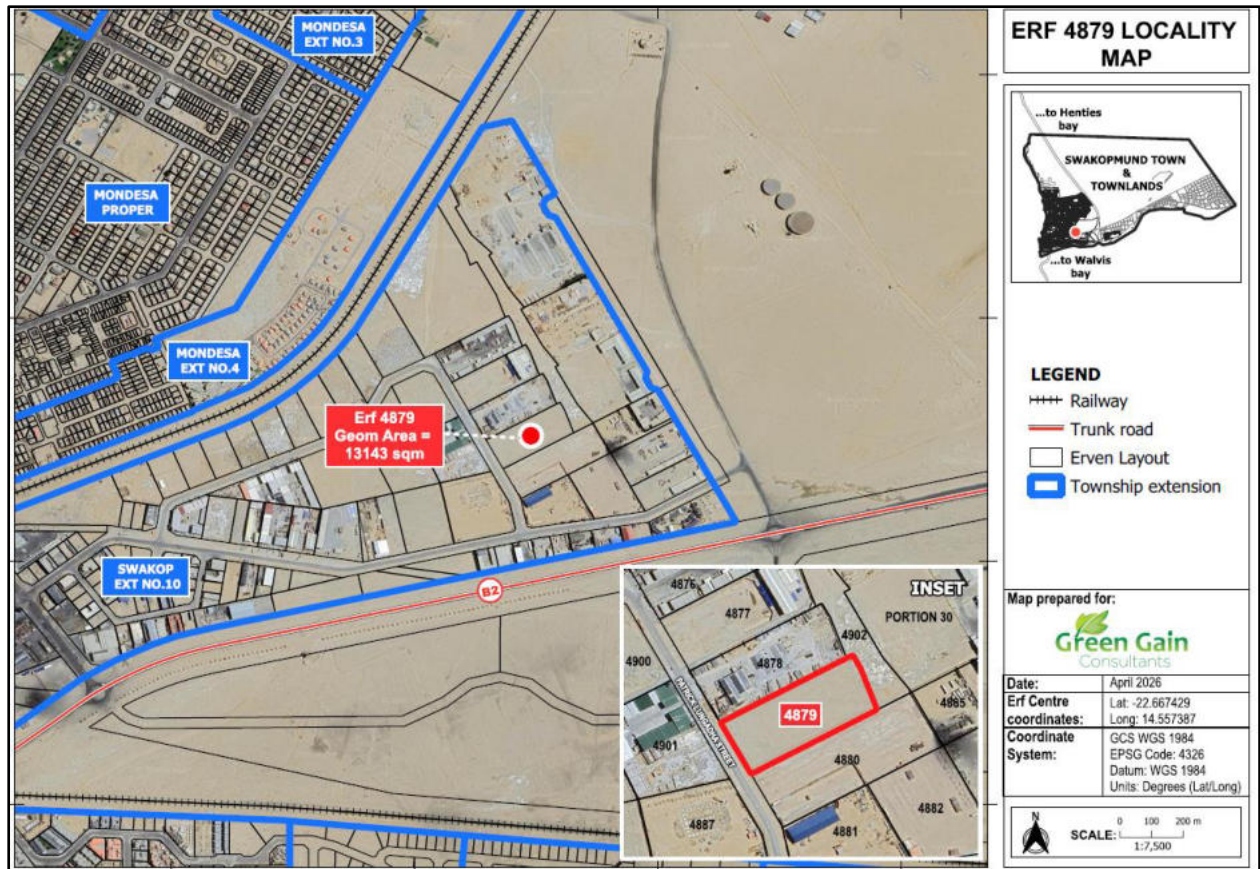


Figure 1: Locality of the proposed developments

3.2 Description of the proposed development site

The property (Erf 4879) is zoned Industrial and located in the Swakopmund Light industrial area (Extension 10) and measures approximately 13143m² or 1.3033 ha in extent and is zoned “Industrial” as per the Swakopmund Zoning Scheme.



Figure 2: Site overview of the site

There are a number of existing Industrial buildings and warehouses in the area. The landscape is flat, monotonous. The sandy soil in the area makes it ideal for development purposes as well as for drainage purposes. Therefore, the area is not negatively affected during the rainy season.

All major and bulk services such as water, sewerage and electricity are readily available in Swakopmund Extension 10. After a detailed design phase, services for the newly created portions will be linked to the existing services network for Swakopmund Extension 10 by the developer.

3.3 Proposed subdivision

The intention is to Subdivide Erf 4879 Swakopmund Extension 10 into Portions A to G and the Remainder to be a one – way street around the proposed subdivide erven to provide a controlled entry and exit point and to make traffic flow easier.

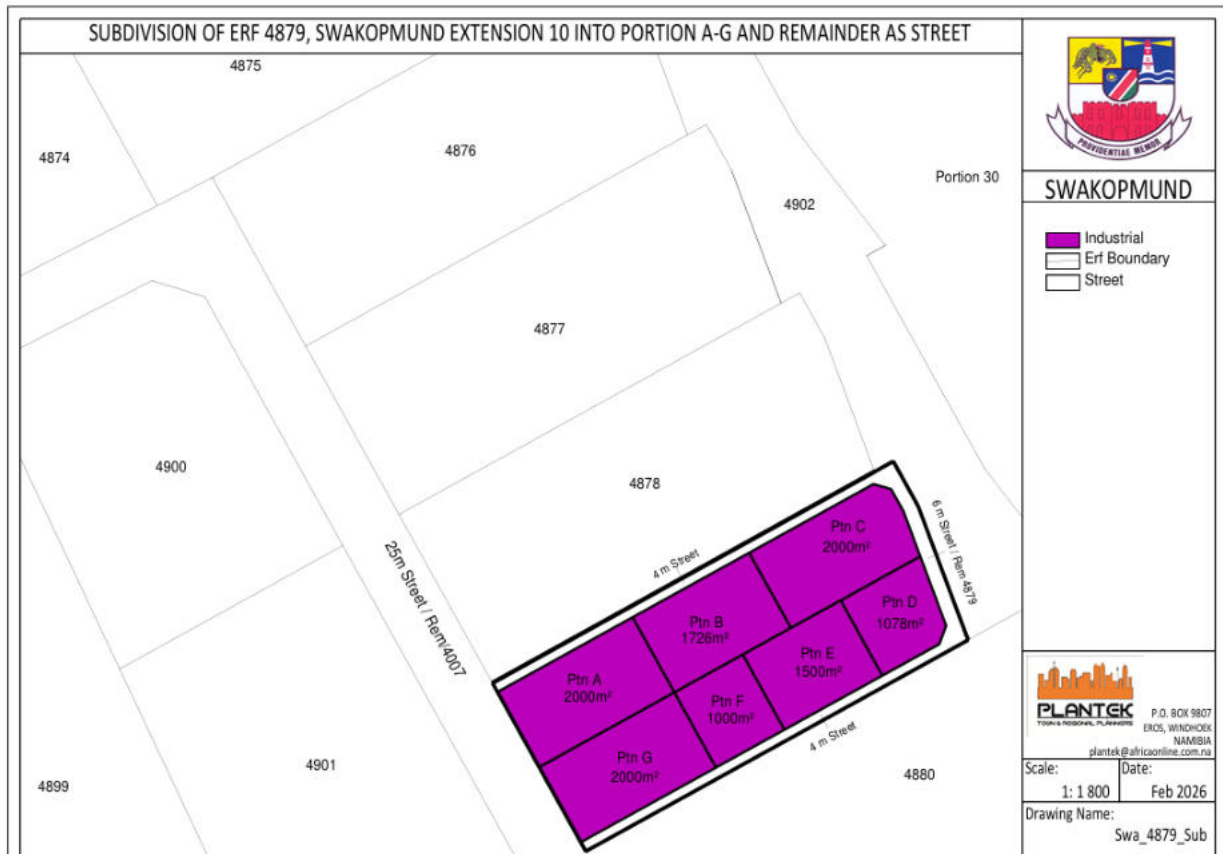


Figure 3: Proposed subdivision layout

The Table below indicates the proposed new sizes and zonings of each new portion created.

Erf Number	Size in m ²	Proposed Zoning
Erf 4879	13 033	Industrial
Portion A	2 000	Industrial
Portion B	1 726	Industrial
Portion C	2 000	Industrial
Portion D	1 078	Industrial
Portion E	1 500	Industrial
Portion F	1 000	Industrial
Portion G	2 000	Industrial
Remainder/4879	1 729	Street

3.4 Proposed One-Way Street

The proposed street will be 4m wide and will be approximately 20m long to provide access to the newly created portions. The street will be linked to the existing 7th avenue.

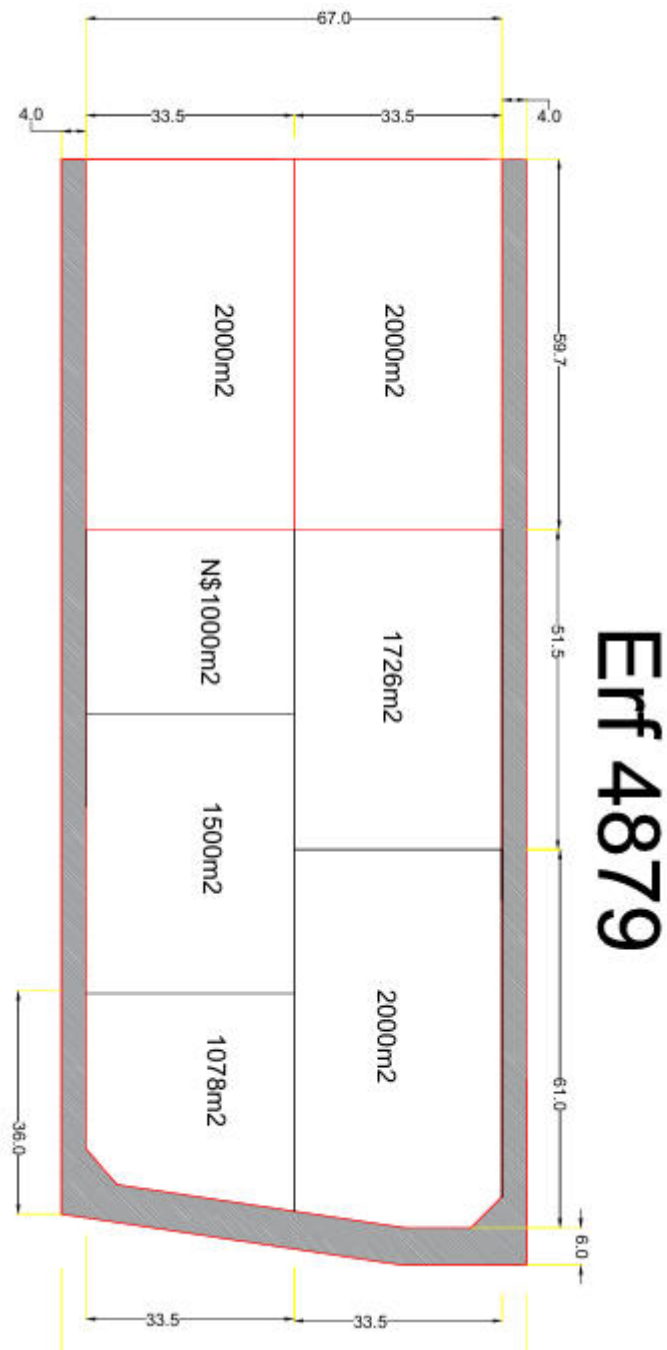


Figure 4: Proposed One-way right of way

3.5 Need and Desirability

The need and desirability of the proposed development are based on the following aspects.

The “**need**” for the project:

- **Industrial Hub:** The area is a growing industrial hub, featuring high-volume sectional-title warehouses, workshops, and, in some cases, residential properties.
- **Property & Real Estate:** Properties in Extension 10 include industrial parks, warehouses with 3-phase power, and residential units. As of early 2025, new, modern houses with three bedrooms, two bathrooms, and outdoor BBQ areas were being constructed in the area.
- **Location:** It is part of the broader Swakopmund Municipality in the Erongo Region.
- **Development:** The area is seeing active development, with initiatives to subdivide industrial sites into smaller, freehold erven (plots) for industrial development.
- **Local Services:** Construction companies and real estate firms, such as Coastal Designs & Construction and Nel's Estates, are active in this area, offering house plans, materials, and property listings.

The “**desirability**” of the project:

- The development site is compatible with the proposed activities; hence the approval of this application would not compromise the integrity of the proposed town urban Structure Plan and the integrity of the existing environmental management priorities for the area.
- The location factors favor this land use (associated with the activity applied for) as it is located within a developing orientated area with much growth potential.
- It is not anticipated that the activity will result in unacceptable opportunity costs as it will be integrated with the existing developments.
- The proposed development will ensure service delivery is provided while creating business opportunities for developers and creation of opportunities for local employment.

3.6 Project Alternatives

The EIA Regulations stipulate that the Scoping process should investigate alternative development options to any proposed developments/activities. The following alternatives were analyzed.

- **Land-use alternatives:** The proposed development sites are within the townlands and thus are expected to be developed at any time to accommodate the growth of the town. Furthermore, the site is disturbed in some way due to its proximity to the existing development. If these sites are not developed, they will soon be occupied by illegal occupants. Hence, the site is considered suitable for the proposed development, and no alternative site is required.
- **No Go Option** - The do-nothing (no go”) option would entail not using the site and maintaining the site as-is. From certain perspectives, this is not a viable option as the site is situated within a proclaimed area planned for urban use and surrounded by either upcoming or already existing residential communities. By not developing the site, the site will be anomalous in the context of the surrounding urban residential land-uses, and some of the direct and indirect socio-economic benefits (i.e., job creation, housing shortages, provision of further housing aimed at the mature living market, etc.) will not be realized.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

This chapter provides an overview of the baseline biophysical and social environmental conditions, with which the proposed project will interact. This information has been sourced from observations made and photographs taken during site visits, the team's experience, and existing literature from previous research conducted in the area. This chapter also identifies sensitivities about key environmental features as well as potential impacts resulting from the proposed project in relation to these sensitivities.

4.1 Biophysical Environment

4.1.1 Climate

The weather along the coast differs from that of the interior parts of the country. This area receives little rain with low average temperatures. The mean annual rainfall for Swakopmund averages between 2 -25 mm, about half of which is expected from February to March. Surrounded by the Namib Desert on three sides and the cold Atlantic waters to the west, Swakopmund enjoys a mild desert climate.

The average temperature ranges between 15 C to 25 C. Rainfall is less than 20 mm per year, making gutters and drainpipes on buildings a rarity. The cold Benguela current supplies moisture for the area in the form of fog that can reach as deep as 140 km inland. The fog that originates offshore from the collision of the cold Benguela Current and warm air from the Hadley Cell create a fog belt that frequently envelops parts of the Namib Desert. Coastal regions can experience more than 180 days of thick fog a year. While this has proved a major hazard to ships, it is a vital source of moisture for desert life. The fauna and flora of the area have adapted to this phenomenon and now rely upon the fog as a source of moisture. The wind is predominately from the southwest with easterly winds occurring infrequently during the winter months. The residential areas are located south of the sand mining site and will not be affected during operational conditions.

4.1.2 Landscape

The proposed development site falls within the Central–Western Plain Landscapes which stretched from the coast and extend inland for about 450 km. The plains were largely formed by erosion cutting back into higher ground and carving out the catchment areas of several major rivers. The Khan, Omaruru, Swakop, and Ugab rivers are the most prominent in this area. The geology mainly consists of the “Swakop Group” with Damara Granites intrusions. The proposed development sites are generally flat with an elevation range of 60-70 m.a.s.l.

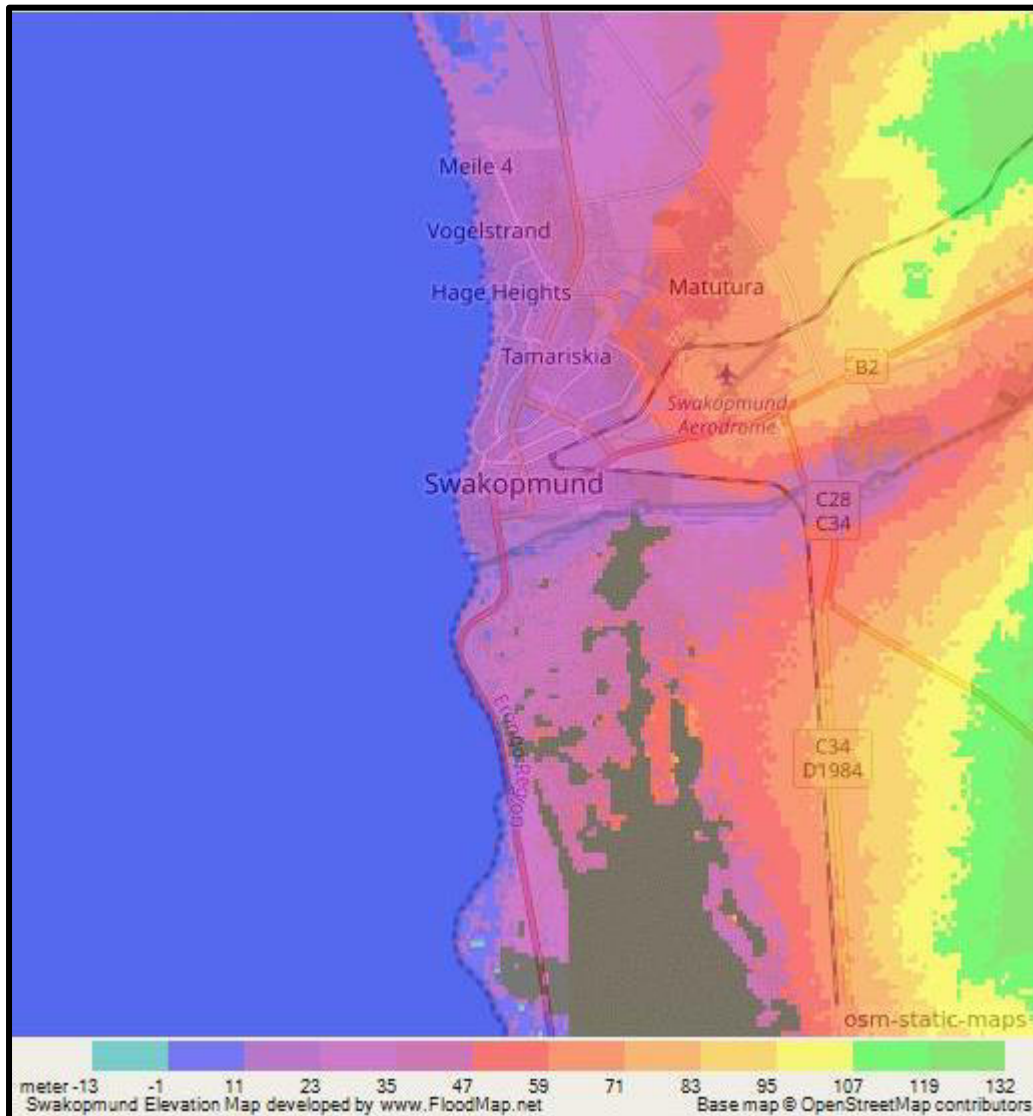


Figure 5: Elevation map for Swakopmund (NASA, 2021)

4.1.3 Soils and Geology

The soil type of the site is Petric Gypsisols, which is gypsum-rich with the surface being covered with small stones and grit to larger rocks and boulders. The soils range from soft and uncompacted in areas where seasonal tributaries flow to being very compacted but have sufficient structure that is easily penetrated by burrowing animals. Accumulations of calcium sulfate are characteristics of gypsisols, which are restricted to the very dry areas of central Namib. The calcium sulfate is dissolved out of the rock and soil and then carried by percolating water beneath the surface, where it remains in a variety of forms: powder, pebbles, stone, or gypsum crystals. The crystals may also form a compact layer or crust just below the surface. Gypsisols generally have very low levels of fertility, so only the hardiest of plants will grow in them.

4.1.4 Flora and faunas

The vegetation type in the area falls within the Southern Desert of the Namib Desert Biome which is dominated by sparse dwarf shrubs. The observed shrub on site is commonly known as Pencil-bush (*Arthroa Leibnitzian*), which is endemic to Namibia. The vegetation of the area is highly disturbed due to the frequent movement of people. The local occurring fauna is mainly ground-living insects, scorpions, snakes, desert mice, and lizards.

4.1.5 Groundwater

Groundwater reserves in Swakopmund are limited to the Kuiseb and Omaruru alluvial bed aquifers, which supply Henties Bay, Swakopmund, Walvis Bay, Arandis, Rössing and Langer Heinrich Mines. These aquifers are situated within the alluvial beds of the Kuiseb and Omaruru rivers. Previous groundwater studies in the area have detected no freshwater table while seawater penetrated inland to at least 500m from the high-water mark at a depth of 1.5m.

4.1.6 Archaeology and heritage resources

No information and palaeontological and historical sites in the study area could be obtained. Since the site is already disturbed no material of cultural or heritage importance is expected to occur at the site. However, should middens or other historical artifacts be discovered during construction, it should be reported to the National Heritage Council after which appropriate specialists will investigate and record those materials before construction activities commence.

4.2 Socio-economic Environment

4.2.1 Town overview

Swakopmund is a town on the coast of western Namibia, 352 km west of the Namibian capital Windhoek via the B2 main road. The town has 44,725 inhabitants and covers 196 square kilometers of land. The town is situated in the Namib Desert and is the fourth largest population center in Namibia. Swakopmund is an important holiday destination and an example of German colonial architecture.

It was founded in 1892 as the main harbor for German Southwest Africa, and a small part of its population is still German speaking. Buildings in the city include the Altes Gefängnis prison, designed by Heinrich Bause in 1909. The Woermannhaus, built-in 1906 with a prominent tower, is now a public library. The Erongo Desalination plant has been the region's highest achievement thus far in terms of economic growth. The mining development in the region has also resulted in an increased immigration to the coastal towns.

The town of Swakopmund is more of a tourist destination than a commercial town, with no fishing industry or local port. Many view the coastal towns such as Swakopmund and Henties Bay as holiday towns, which see an influx of tourists during the holidays. The National Marine Aquarium, Snake Park, the Rossmund Desert Golf Course, Swakopmund Museum, the crystal gallery, and the Jetty are some of the major tourist attraction sites in the town. As the tourism industry is expanding, so are employment rates in the accommodation and catering industry.

4.2.2 Bulk service supply

Swakopmund is served with modern infrastructure and bulk services such as:

- **Water Supply:** Freshwater supply to the town is provided by NamWater.
- **Road network:** There is existing roadwork connecting to the proposed development areas. Most of the roads especially in the town's CBD are well-tarred except at some parts of suburbs like Mondesa and in the informal settlements of DRC.
- **Sewerage & Drainage:** The existing system serves most of the existing developed areas except for the DRC informal settlement. It is expected that the sewer reticulation network, pump stations will be provided and connected to the sewer treatment plant. The informal settlements are not connected to the sewer network; as such, some residents make use of septic tanks, pit latrines, etc.
- **Communication & Electricity:** Most of the town's electricity is served via Erongo RED, although some areas within the existing informal settlements are not connected. The town has access to various network coverage providers.

4.2.3 Socio-economic development

The town of Swakopmund is well developed and offers various services such as shopping centers, banking institutions, government offices, etc. It is served by the Swakopmund Airport and Railway Station. The main healthcare provider in the town is the Cottage Medi-Clinic, a hospital with 70 beds. There are about 66 schools in Swakopmund of which 49 are state-owned while 17 are privately owned. Institutions of high learning i.e., NUST and various training centers (CODEC) are readily available.

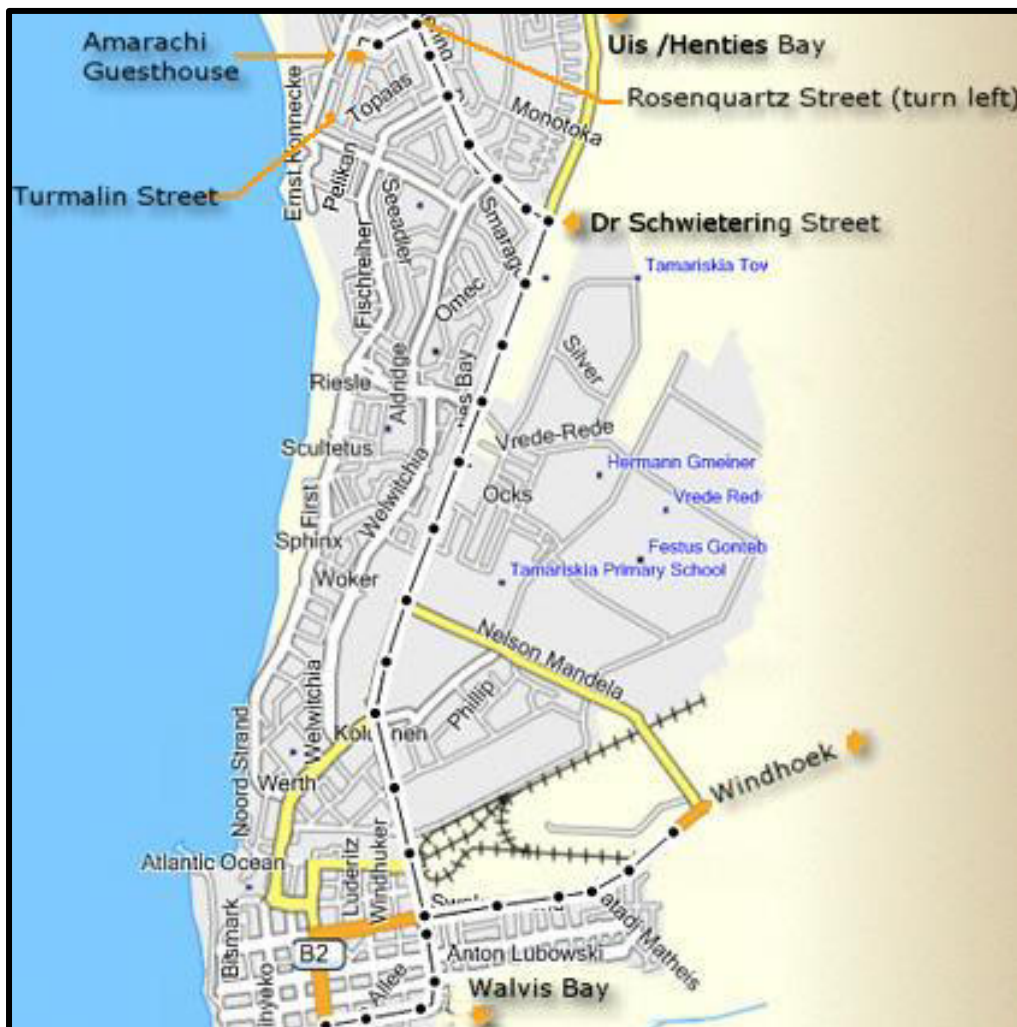


Figure 6: Swakopmund development overview

5. PUBLIC PARTICIPATION

Public consultation is an important component of an Environmental Assessment (EA) as it provides potential Interested and Affected Parties (I&APs) with a platform to raise any issues or concerns relevant to the proposed project. This assists the environmental consultant in considering the full spectrum of potential impacts and to what extent further investigations are required.

In addition, the public consultation process also grants I&AP's an opportunity to review and comment on all the documents produced throughout the EA process. This is done in accordance with the Environmental Management Act's EIA Regulations. Consultation with the relevant stakeholders and I&APs regarding the proposed development was facilitated as outlined below.

5.1 Notification of key Stakeholders and Interested & Affected Parties

Section 21 of the EIA Regulations details steps to be taken during the public consultation process and these steps have been used to guide this process. Consultation with I&APs regarding the proposed developments was facilitated through the following approaches:

- Public notices were advertised twice in the Windhoek Observer and Confidante newspapers for 20 and 27 February 2026 with the due date for submission of comments on 18 March 2026.
- The notice provided a brief description of the proposed development, its location, and it invites the public to register as I&APs.
- Identified key stakeholders were served with invitation letters to attend the meeting and were encouraged to submit comments toward the envisaged project.
- A Background Information Document (BID) was compiled that contained essential information regarding the proposed development.
- The BID was sent to all registered I&APs and stakeholders.

6. IMPACT ASSESSMENT

6.1 Introduction

The EIA Regulations require “a description of the significance of any significant effects, including cumulative effects, which may occur as a result of the undertaking of the activity”.

The table below indicates a summary of identified environmental impacts. These impacts are categorized into the various relevant phases of the life cycle of the proposed development, namely: planning phase, construction phase, and operational phase. The environmental assessment section of the scoping report and the consequent EMP shall also be compartmentalized into these phases. Due to the nature of this development, it is anticipated that all the infrastructures will be permanent, hence decommissioning will not be required. Maintenance of the infrastructure will be addressed under the operational phase.

6.2 Method of Assessment

The potential environmental impacts associated with the proposed will be evaluated according to its nature, extent, duration, intensity, probability, and significance of the impacts as follows.

Table 3: Impact Assessment criteria

CRITERIA	DESCRIPTION			
EXTENT	National (4) The whole country	Regional (3) Erongo region and neighbouring regions	Local (2) Within a radius of 2 km of the proposed site	Site (1) Within the proposed site
DURATION	Permanent (4) Mitigation either by man or natural process will not occur in such a way or in a timeframe that the impact can be considered short-lived	Long-term (3) The impact will last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter.	Medium-term (2) The impact will last for the period of the construction phase, whereafter it will be entirely negated	Short-term (1) The impact will either disappear with mitigation or will be mitigated through a natural process in a span shorter than the construction phase
INTENSITY	Very High (4) Natural, cultural, and social functions and processes are altered to an extent that they permanently cease	High (3) Natural, cultural and social functions and processes are altered to an extent that they temporarily cease	Moderate (2) Affected environment is altered, but natural, cultural, and social functions and processes continue albeit in a modified way	Low (1) Impact affects the environment in such a way that natural, cultural and social functions and processes are not affected
PROBABILITY	Definite (4) The impact will certainly occur	Highly Probable (3) Most likely that the impact will occur	Possible (2) The impact may occur	Improbable (1) The likelihood of the impact materialising is very low
SIGNIFICANCE	Significance is an indication of the importance of the impact in terms of both physical extent & time scale, and therefore indicates the level of mitigation required. Significance is			

	given before and after mitigation. The total number of points scored for each impact indicates the level of significance of the impact.
STATUS OF THE IMPACT	<p>A statement of whether the impact is:</p> <ul style="list-style-type: none"> • Positive (beneficial impact), • Negative (adverse impact), or • Neutral (impact is neither beneficial nor adverse). <p>Indicate in each case who is likely to benefit and who is likely to bear the costs of each impact.</p>

Table 4: Criteria for significance ratings and associated range of scores

Significance Rate	Description	Score
Low	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction, or operating procedure.	1 - 4
Moderate	An important impact that requires mitigation. Mitigation is possible with additional design and construction inputs.	5 - 8
High	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.	9 - 12
Very High	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.	13 - 20

6.3 Assessment of Identified Impacts

All impacts included in the table below fall within the scope of this project and the responsibility of the proponent. Each of the potential impacts is screened and subjected to the criteria stipulated above in **Table 5**. The significance of each potential impact is determined based on the criteria in **Table 6**. It is expected that most of these impacts can be decreased by the proposed migratory measures.

6.3.1 Impacts Assessment of Impacts during Planning and Design Phase

The first step in avoiding and preventing any possible negative impacts during the construction, operation, maintenance, and decommissioning phase, should start with the planning and designing phase. The following issues should be considered during the planning and design phase.

a) Sizes of the road and of the properties

The proposed properties sizes as depicted in Figure 6 are in accordance with the Urban and Regional Planning Act, 05 of 2018 and in line with the Swakopmund Town Planning Scheme. The proposed road size (10 m) also complies to the minimum allowable road size required by the Urban and Regional Planning Act, 05 of 2018 and also considered sufficient to cater for traffic in two directions. The proposed layout is subjected to the approval of the Urban and Regional Planning Board (URPB).

b) Impact on ground water and drainage

Provision must be made for drainage of stormwater from and around the site. This can be achieved by making provision of storm water drainage system i.e., slope road surface or culverts to allow free flow of storm water during rainy season.

c) Provision of service lines

The newly created erven will need to be connected to the municipal services such as sewage, water, electricity, internet, telecommunication etc. Hence, it is recommended that provision for routes along or cross over the proposed road for these services lines. This is to ensure that the associated infrastructure i.e., pipes, manholes, lines etc, will be safely placed and will not interfere with the traffic and road users. Moreover, proper planning will save cost during the installation of these service line both to the Council and to the developer or property owners.

6.3.2 Impact Assessment during Construction Phase

Table 5: Potential Impacts during the development phase of the proposed development

ASPECT	POTENTIAL IMPACTS	RATING (If it does occur)				SIGNIFICANCE OF IMPACT	MITIGATION/ENHANCEMENT MEASURES
		Extent	Duration	Intensity	Probability		
1. BIOPHYSICAL							
Impact on Vegetation	<ul style="list-style-type: none"> Vegetation clearance during construction 	1	1	1	1	Low	<ul style="list-style-type: none"> The site does not have any vegetation covers.
Soil contamination	<ul style="list-style-type: none"> Contamination of soil with chemicals (sodium chloride, Calcium magnesium acetate, etc.) which are found in deicer agents 	1	1	2	2	Moderate	<ul style="list-style-type: none"> Any spillage of oil, lubricants etc. must be cleaned up. Environmentally friendly and recommended products must be used for road marking.
Impact on drainage Impact on the	<ul style="list-style-type: none"> Construction works may divert the natural stormwater drainage of the site. 	1	1	1	1	Low	<ul style="list-style-type: none"> There is no major drainage lines affected. However, provision for culverts must be made to enable surface runoff.
Visual impacts	<ul style="list-style-type: none"> Uncompleted construction works may decrease the visual attraction of the area 	1	1	1	1	Low	<ul style="list-style-type: none"> All temporary structures must be removed after construction, and all trenches must be covered.

								<ul style="list-style-type: none"> Construction waste should be collected and disposed of weekly.
Air quality	<ul style="list-style-type: none"> Dust generation from construction work may decrease air quality. 	1	1	2	2	Moderate	<ul style="list-style-type: none"> Control dust generation during construction period. 	
	<ul style="list-style-type: none"> Fumes from traffic (road users) and emission of leads from moving vehicles may pollute the air. 	1	1	1	1	Low	<ul style="list-style-type: none"> Limited impact 	
Water usage	<ul style="list-style-type: none"> The construction of the proposed road will make use of water in its construction phase. 	1	1	1	1	Low	<ul style="list-style-type: none"> Given the size of the proposed road area, the impact on water resource availability is limited and can be accommodated within the available water resources. 	
2. SOCIO-ECONOMIC								
Dislocation of people	<ul style="list-style-type: none"> Since the proposed development sites are partially occupied, the intended development might result in dislocation of the affected people. 	1	1	1	1		<ul style="list-style-type: none"> Affected people will be accommodated into newly created erven. 	
Traffic impacts	<ul style="list-style-type: none"> Construction will increase traffic congestion in the nearby street. 	1	1	2	2	Moderate	<ul style="list-style-type: none"> Erect construction signals at the construction site. There must be at least two flag bearers at the 	

							construction site to direct traffic flow.
Nuisance in the form of noise and vibration	<ul style="list-style-type: none"> • Generation of excessive noise during construction and operation may be nuisance to the residents. 	1	1	1	1	Low	<ul style="list-style-type: none"> • Construction should be limited to daytime. • Provide maintenance to construction plants and machineries
Waste generation	<ul style="list-style-type: none"> • The construction and operation may result in a myriad of waste products in the environment. 	1	1	2	2	Moderate	<ul style="list-style-type: none"> • All waste generated during construction should be contained and disposed of properly.
Temporary camps	<ul style="list-style-type: none"> • Construction camps onsite can result in secondary environmental impacts i.e., pollution, noise etc. 	1	1	1	2	Moderate	<ul style="list-style-type: none"> • Construction camps should be established at the site approved by the Local Authority. • Provide ablution facilities at the construction site.
Health, Safety and Security	<ul style="list-style-type: none"> • The safety, security, and health of the labour force, employees and general, public may be compromised during construction. 	1	1	2	2	Moderate	<ul style="list-style-type: none"> • All employees should be provided with personal protective equipment (PPE). • The construction site must be barricaded, and all trenches must be covered to prevent/sealed.
Local employment (positive)	<ul style="list-style-type: none"> • The construction phase will generate temporary local employment opportunities. 	1	1	2	2	Moderate	<ul style="list-style-type: none"> • Preferences should be given to local people.

6.3.3 Impact Assessment during Operation Phase

Table 6: Potential Impacts during the operational phase of the proposed development

ASPECT	POTENTIAL IMPACT	SIGNIFICANCE BEFORE MITIGATION					MITIGATION MEASURE
		Extent	Duration	Intensity	Probability	Significance	
BIOPHYSICAL IMPACTS	Impact on biodiversity (flora and fauna)	1	1	2	2	Moderate	-Plant trees to enhance aesthetic impression and local biodiversity.
	Alteration of existing visual perspective	1	4	1	1	Moderate	-Landscaping will enhance biodiversity.
	Soil, surface, and groundwater impacts	1	4	1	1	Moderate	-Ensure that surface water accumulating on-site are channelled and captured through a proper stormwater management system to be treated appropriately before disposal into the environment. -Disposal of waste from the various activities should be properly managed.
	Possible pollution to groundwater pollution from leaking sewage lines	1	1	1	1	Low	-Sewage lines must be maintained frequently to prevent leakages and increase their operational life.
SOCIO-ECONOMIC	Increase in traffic within the area	1	1	1	2	Moderate	-Provide appropriate road signs & markings, sidewalks for pedestrians. -Provide for speed-reducing interventions such as speed bumps at relevant road sections.
	Increase demand for water and electricity	1	1	1	2	Low	-Only little amount of water will be need for road maintenance and repair from time to time
	The access road to the site	1	1	1	2	Moderate	-Swakopmund Municipality to approach RA to establish an access road from the C34 to the proposed sites as an alternative access road.
	Waste generation	1	1	1	1	Low	-Swakopmund Municipality will be responsible for street sweeping and cleaning

7. CONCLUSION AND RECOMMENDATIONS

The key potential impacts associated with the construction, operational, and maintenance phases of the proposed project have been identified and their significance assessed. All identified impacts can be mitigated to reduce the significance of these impacts to an acceptable level. Mitigation measures are described in greater detail in the EMP. Hence, the project can be implemented with no significant impacts if executed according to the EMP.

7.1 Conclusion

- Since no objection was received during the consultation period, the project is well received by both I&APs and stakeholders.
- The scope of work is limited to assessing the potential impacts associated with the proposed development; therefore, the effect on the surrounding environment is based on the current land use.

7.2 Recommendations

It is recommended that

- Appoint an Environmental Compliance Officer (ECO) or a representative for monthly environmental compliance monitoring during the construction phase. The monthly reports are to be compiled into annual reports and are to be submitted to the Ministry of Environment, Forestry, and Tourism.
- Apply various mitigation measures outlined in Tables 7 and 8 of this report and as per the appended EMP.

To this end, it is therefore recommended that an Environmental Clearance Certificate be granted for the **Proposed subdivision of Erf 4879 Swakopmund Extension 10 into 7 portions and reminder as a one-way street.**

8. REFERENCES

- Directorate of Environmental Affairs, 2008. Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP), Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek.
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9. APPENDICES

APPENDIX A: **Proof of Consultations**

APPENDIX B: **EMP**