

**Environmental Impact Assessment (EIA) for
the *subdivisions and township establishment*
on the remainder of *Portion B* of the
Swakopmund town and townlands No. 41
Swakopmund, Erongo Region.**

ENVIRONMENTAL SCOPING REPORT

PREPARED FOR:

Municipality of Swakopmund

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Swakopmund



PREPARED BY:



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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
MAW&LR	Ministry of Agriculture, Water, and Land Reform
MEFT:	Ministry of Environment, Forestry, and Tourism
PPE:	Personal Protective Equipment
RA:	Roads Authority
SDF	Spatial Development Framework

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

Rapid urbanization has created a growing demand for serviced land for social and economic development in urban areas. In its meetings of 2021/07/01 and 2021/05/27, the Council of Swakopmund Municipality approved the subdivisions of the remainder of Portion B of Swakopmund town and townlands No. 41 into portions 182, 183, and 184 for township establishments of three new township extensions.

In terms of the Environmental Management Act No. 7 of 2007 and the Environmental Impact Assessment Regulations (GN No 30 of 2012), the proposed development may not be carried out without an Environmental Impact Assessment (EIA) being conducted and an Environmental Clearance Certificate (ECC) being obtained. Green Gain Consultants cc has been appointed to conduct an EIA study, develop an Environmental Management Plan (EMP), and subsequently apply for an ECC for the proposed activities on behalf of the proponent.

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. Information relating to the receiving environment and its social surroundings has been sourced through the following means:

- Site visits to collect primary data.
- Legal and policy review.
- Gathering existing information relating to similar developments and issues.
- Discussions, meetings, and site visits with various authorities.
- Opinions and concerns raised by I&APs and stakeholders; and
- Ecological/hydrological surveys and expert opinions.

1.3 Terms of Reference

The terms of reference for the proposed activities are based on the requirements set out by the Environmental Management Act (No. 7 of 2007) and its EIA Regulations (GN No 30 of 2012). 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 the 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

1.4 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	Office No.7, 12 th road, Heidi' Ecke Building, Walvis Bay
Lead EAP	Mr. J.K. Amushila
EAP	Ms. L. Hailaula

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
<ul style="list-style-type: none"> • Sewer network, pumpstations and pipeline system for the new extensions 	No. 8. Water Resource Developments	8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

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) 	<p>The limitations applicable on RA-proclaimed roads should inform the proposed layout and zonings where applicable.</p> <p>Access from C34 road (if need be) should be approved by the Roads Authority</p> <p>The following restrictions must apply.</p> <ul style="list-style-type: none"> • 100m from the main road for the main building • 30m from the road for any structure
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.
General Railway Regulations	<ul style="list-style-type: none"> • Providing guiding principle with regards to development and operation within the Railway line reserves. 	A buffer zone of 800m between the development and the existing railway line should be provided

Namibian Civil Aviation Act 6 of 2016

To consolidate the laws relating to civil aviation and civil aviation offenses; to provide for the powers and functions of the Minister about civil aviation; to establish the Namibia Civil Aviation Authority and to provide for its powers and functions; to establish the Air Navigation Services in the Authority; to provide for a civil aviation regulatory and control framework for maintaining, enhancing and promoting the safety and security of civil aviation for ensuring the implementation of international aviation agreements; to establish the Directorate of Aircraft Accident and Incident Investigations and to provide for its powers and functions; to provide for the establishment of Namibia Register of Aircraft and the Civil Aviation Registry; to repeal the laws relating to civil aviation and civil aviation offences, and to provide for incidental matters.

The following height restrictions should be adhered to.

- No overhead lines allowed within the proposed developed sites of portions 182, 183, and 184. All service lines must be underground.
- Portion 182, 183, and 184 a height restriction of 15m should be ensured.

3. PROJECT DESCRIPTION

3.1 Locality

The remainder of Portion B of Swakopmund town and townlands No. 41 is located east of the town's CBD along the C34 road to Henties Bay. The site (Remainder of Portion B) will be subdivided into three portions: Portion 182, Portion 183, and Portion 184 as depicted in Figure 1 below.



Figure 1: Locality of the proposed developments

3.2 Description of the Proposed Development sites

a) Portion 182

Portion 182 of Portion B of the Swakopmund Town and Townlands Number 41 is located east of Swakopmund Extension 40 and measures approximately 20.0392 hectares in extent. It is currently vacant/unoccupied and is zoned “undetermined”.

b) Portion 183

Portion 183 of Portion B of the Swakopmund Town and Townlands Number 41 is located east of Swakopmund Extension 41 and measures approximately 18.9231 hectares in extent. The portion is currently vacant/unoccupied and is zoned as “undetermined”.

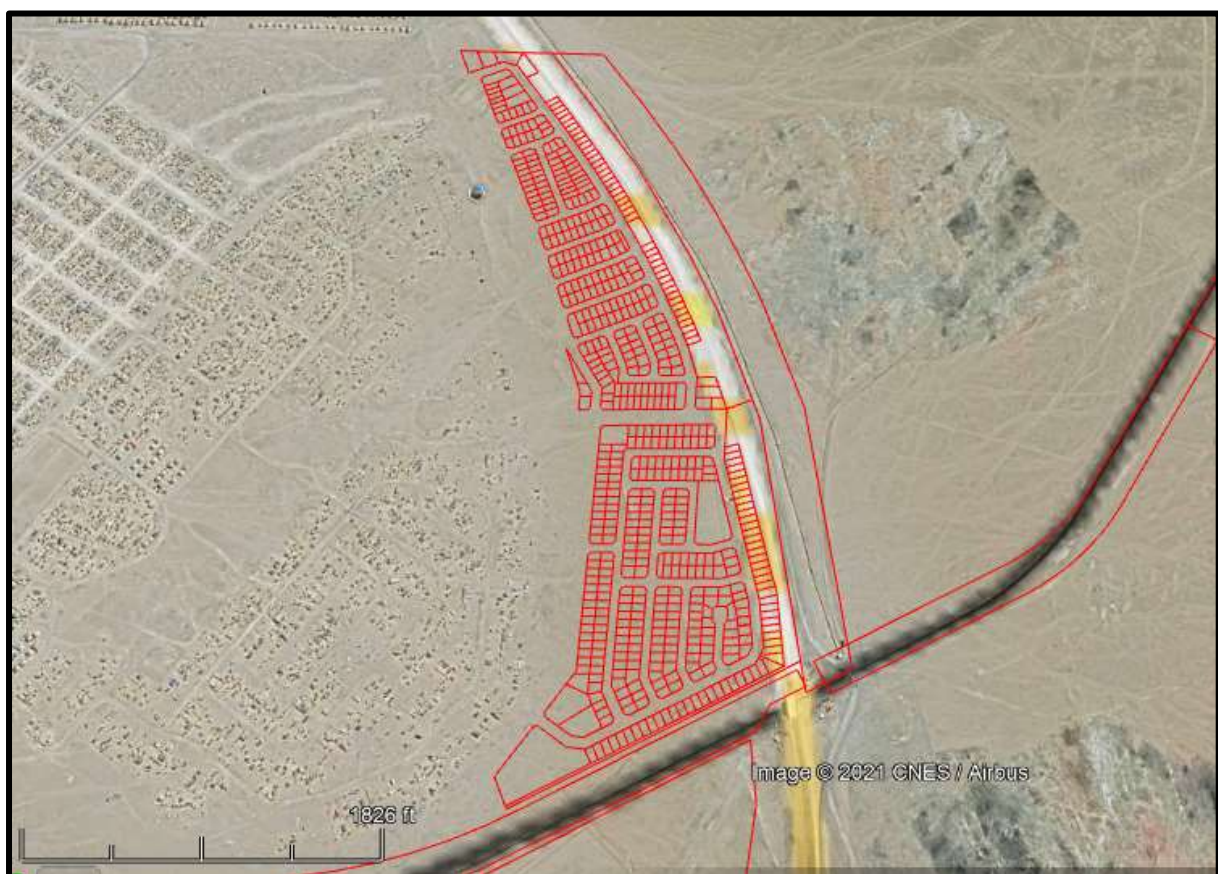


Figure 2: Site overview of Portions 182 & 183

c) *Portion 184*

Portion 184 of Portion B of the Swakopmund Town and Townlands Number 41 is located north of the Swakopmund airport, measures approximately 17. 6805.01 hectares and is currently zoned “undetermined”. The portion is currently informally occupied by inhabitants that were relocated in 2015. A total of 175 occupants had been relocated to this portion as part of a decluttering program. However, the residents living in the area have become more over the years, hence currently there are approximately 300 shacks onsite.



Figure 3: Site overview of Portion 184



Figure 4: Makeshift houses on the proposed development site (Portion 184)

3.3 Adjacent Land Uses

The proposed development sites for the above-mentioned townships developments are located in the proximity of the existing settlement of DRC (Wagdaar location), Mass Housing project, Swakopmund aerodrome, C34 road, NamWater pipeline, and the railway line. DRC location is formal to a semi-informal settlement with limited bulk services. Hence some services such as road network, water connection are available however, other services such as sewer reticulation, electricity, telecommunication lines are only available at some sections of the settlement. Additionally, there are several illegal occupants with makeshift shacks settling on Portion 184 of the proposed developments. These residents need to be relocated to make way for land servicing activities. Portions 182 and 183 are currently vacant.



Figure 5: Adjacent development to portion 182 – 184 (DRC)

Portion 184 is in proximity to the and thus falls under requirements of the Namibian Regulations (NAMCARs 139.01.34) Obstacle Limitation and marking outside. Hence, height restrictions of 15m and 5m for portion 184 must be applied.



Figure 6: Existing Swakopmund Airport in the proximity of Portion 184

- **Servitudes**

There are no existing servitudes that have been observed to have passed through the proposed development site for portions 182, 183, and 184. However, Portions 183 and 184 are boarded on the south to the south-west by the railway line, hence an 8-meter railway reserve should be observed on both sides.

- **Access Road Network**

The current access to portions 182,183 and 184 is through the existing road network to the DRC location area. Alternatively, access to portions 182, 183, and 184 can also be served from the newly completed main road to Henties Bay (C34). The C34 road is served from the B2 Trans- Kalahari Road network via a ribbon road network, provided that servitude is registered and approved by the Roads Authority (RA).

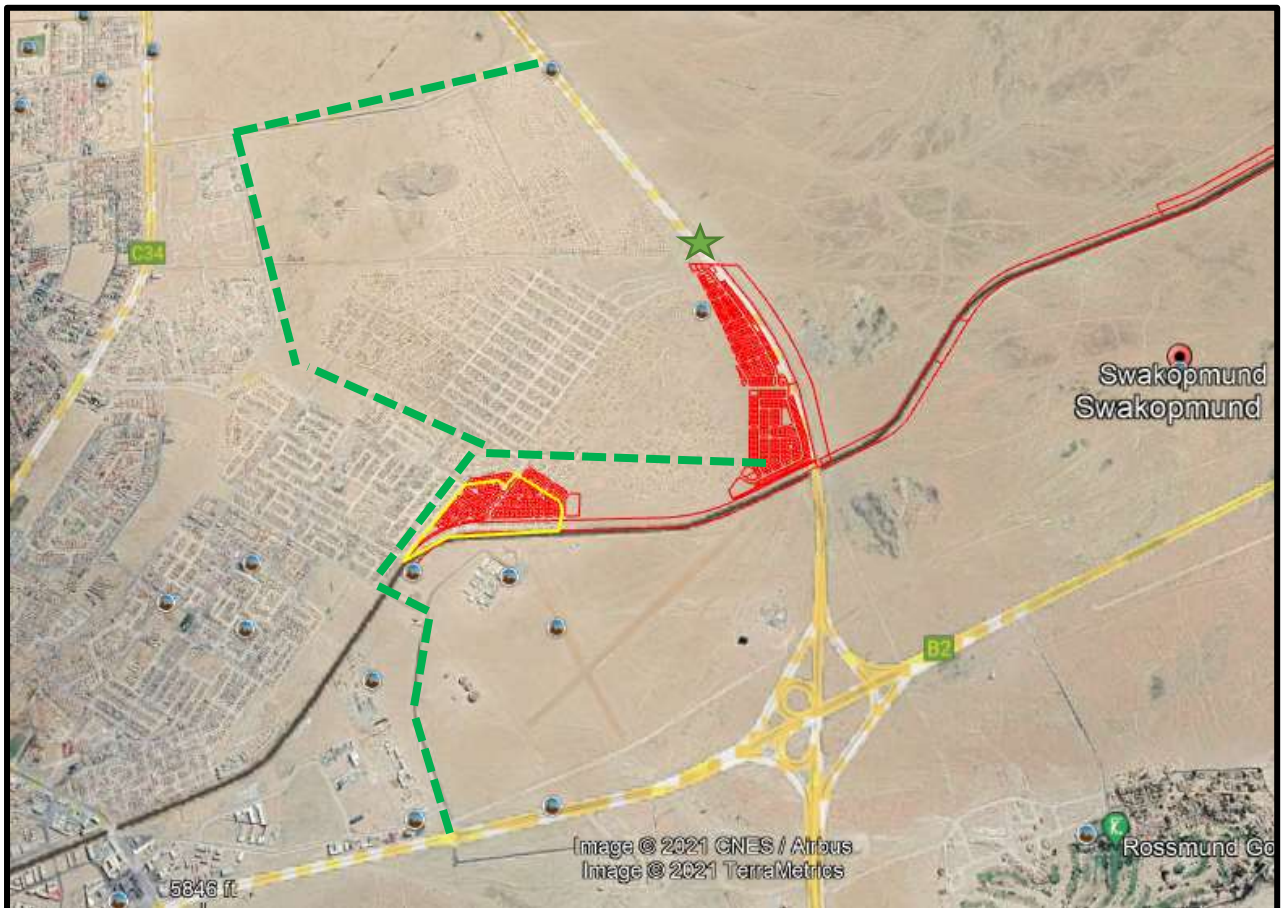




Figure 7: Access options to portions 182, 183 & 184

Legends	
	Current access road
	Alternative access point

3.4 Proposed Land Use

3.4.1 Subdivisions

The proposed township developments will create a total of 910 erven (See Table 1 below).

The proposed developments will be for mixed uses consisting of single residential, general residential, POS, general business, institutional, and parastatal purposes.

Table 3: Proposed subdivisions

Portions	Total Area (ha)	Land uses	No. of Erven
Portion 182	20.0392	Single & general residential, parastatal, general business, institutional, POS.	±283 and remainders
Portion 183	18.9231	Single & general residential, institutional, POS	±313 and remainders
Portion 184	17.6805.01	Single residential, general business, institutional, POS	±314 and remainders

3.4.2 Proposed layouts

Portion 182 will be subdivided into 283 erven and the remainder as streets (as depicted in the layout plan below). The intended township development will be predominantly for residential purposes, general businesses, institutional, parastatal and public open space development will also be included.



Figure 8: Proposed layouts (Portion 182)

Portion 183 will be subdivided into 313 even and the remainder as streets (as per the layout plan below). The intended township development consists predominantly of residential erven, institutional, and public open spaces.

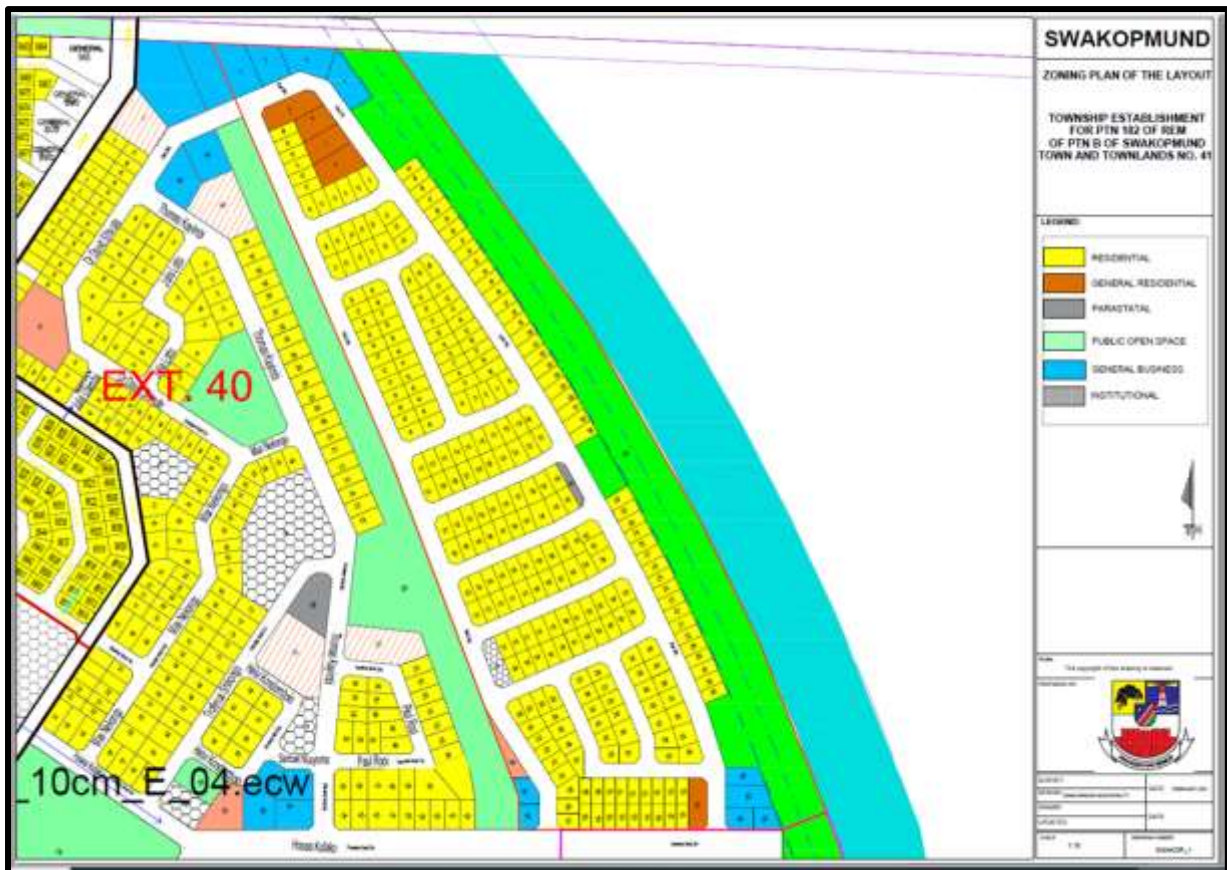


Figure 9: Proposed layout (Portion; 183)

Portion 184 will be subdivided into 314 even and the remainder as streets. The intended development will be for mixed-use development, which includes residential even as a majority use, parastatals, businesses, institutional and public open spaces.

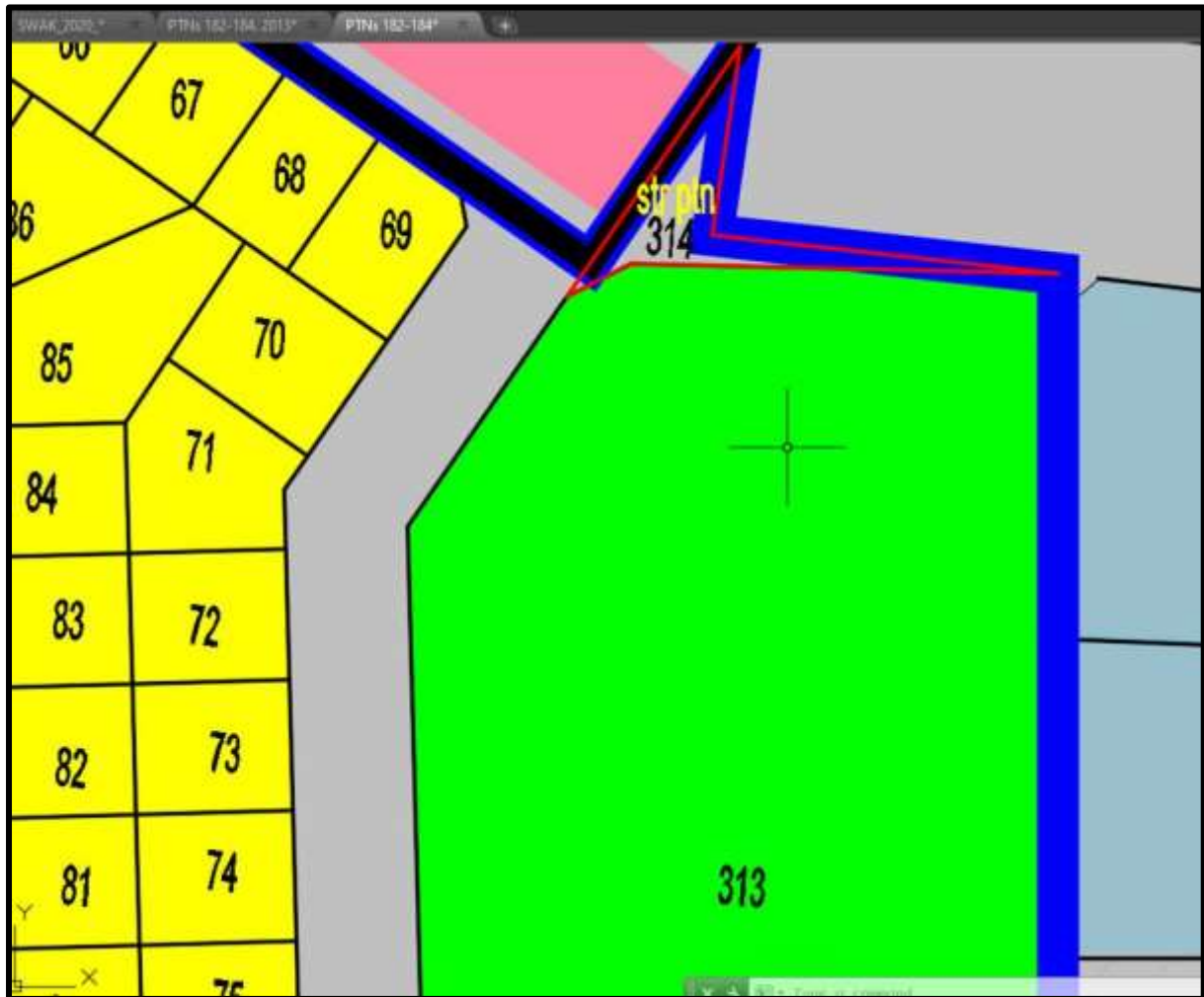


Figure 10: Proposed layout (Portion 184)

The intended street networks to be created on

3.4.2 Creation of a public road (street) Erf 314

As a result of the creation of new township extension on Portion 184, there will be a need to create a street (public road) on Erf 314 for access purposes. This will also create a link and enable a free flow of traffic between the newly established township on Portion 184 and portion 183.



3.5 Need and Desirability

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

The “**need**” for the project:

- The provision of low-income housing has become a national concern. With the growing demand for serviced land due to rapid urbanization, it is of high priority that the Swakopmund Municipality subdivide available and developable land surrounding the town area to provide land, especially for housing and businesses purposes.
- The project is planned at a time and place in a developing sector of the town and can be a natural opportunity associated with the growth of the town.
- The activities will enable the Swakopmund Council to ensure timely and adequate municipal service to the local community.

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

- As the site is in an “expansion zone”, the approval of this application would not compromise the integrity of the proposed town urban Structure Plan.
- The approval of this application would not compromise 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.
- The operation will be designed, constructed, and operated according to the required standards set by the relevant authorities and should not impact people’s health and wellbeing (e.g., noise, odors, visual character and sense of place, etc).
- 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. There are also some sandhills especially in portions 182 and 183 (Figure below). Given the limited rainfall pattern of the Namib Desert, there are no major drainage lines found in the area.



Figure 11: Landscape overview of the development site

4.1.3 Topography and elevation

The proposed development sites are generally flat with an elevation range of 60-70 m.a.s.l.

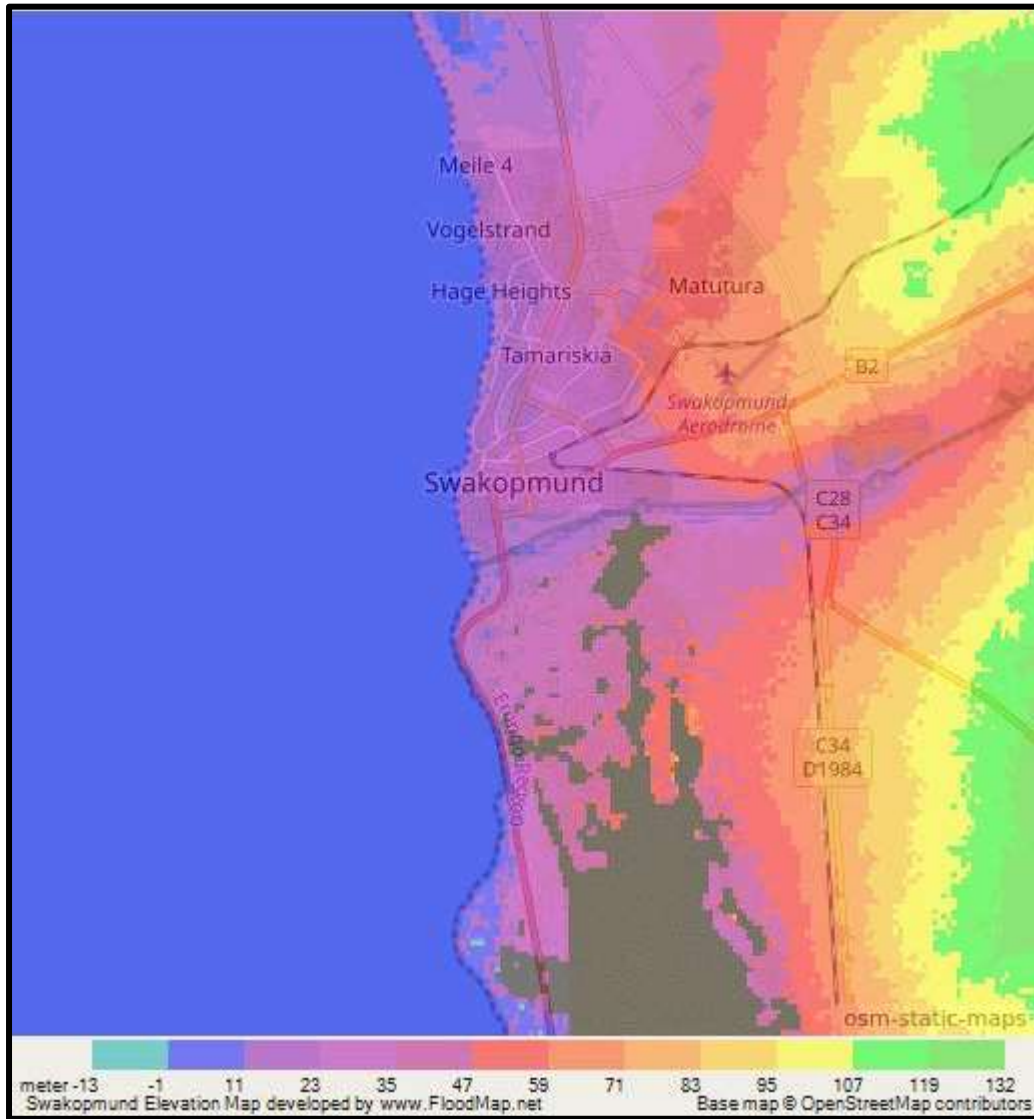


Figure 12: Elevation map for Swakopmund (NASA, 2021)

4.1.4 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 un-compacted 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.

4.1.5 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.



Figure 13: Flora onsite

4.1.6 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.

4.1.7 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.

4.1.8 Environmental Sensitivity Evaluation

The proposed development sites are disturbed in some way as they are in proximity to existing developments, the environmental sensitivity of the area has also diminished.

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 in-migration 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. The C34 road will likely provide alternative access to the proposed townships of portions 182, 183, and 184.
- **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 14: 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 Notifications were placed in the local newspapers and public notices. The notices were advertised in The Namib Times for 01 and 08 October 2021 and New Era for 01 and 08 October 2021. The notice provided a brief description of the proposed development, its locality and it invites the public to register as I&APs. (**Appendix B**)
- Potential I&APs were invited to attend a public meeting. The public meeting took place on 08 October 2021 at an open area between Wagdaar location and Airport informal settlements in DRC location, Swakopmund at 14:30. The public meeting was not well attended (**Appendix B**)
- 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.

5.2 Public and Stakeholders meetings

The public meeting was held at the open area between the Wagdaar location and Airport informal settlements in the DRC location on 08 October 2021 at 14:30. The purpose of the meeting was to introduce the project to potential I&APs and solicit input for consideration during the study. Additionally, identified stakeholders were invited to a separate meeting which was held at the Swakopmund Municipality Engineering Boardroom on 14 October 2021 at 15:00. The meeting was attended by Municipal staff from various departments. See **Appendix B** for the list of stakeholders and the public meeting attendees.

5.3 Issues raised

During the meetings held a description of the project was presented and an opportunity was given for attendees to provide their comments and concerns. The issues/concerns raised are summarized in the table below.

Table 4: Issues raised by I&APs and stakeholders

QUESTION, QUERY, CONCERN RAISED:	COMMENT/S
How will the Municipality allocate plots to people in the proposed township developments since there are more people than the proposed erven to be created?	The residents will be relocated to Portion 182 & 183, and they will also be registered by Council. This exercise will formulate the same services that are offered in the Wagdaar location.
Ensure there is a safe distance between the proposed house developments and the railway line for safety issues	Provision has been made for a safe distance between the railway line and the proposed development.
Will the residents of the Airport suburb be included in the land allocation since most of them are not registered on the Wagdaar allocation list?	It is expected that this situation will be solved once the proposed development has been implemented. The residents will be relocated to Portion 182 & 183, and they will also be registered by Council.
Why is there no provision for small-scale businesses ervens?	Provision will be made for hawkers and small-scale businesses in the proposed developments. Home-based businesses will be promoted in the portions.
• How will the Municipality ensure that restrictions given by NCAA are adhered to?	Height restrictions of the portion affected will be included in the Swakopmund Structure Plan and should be made part of the sale conditions of the ervens.

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 5: 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 6: 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 Swakopmund Municipality. 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.

Table 7: Potential Impacts during the development phase of the proposed development

ASPECT	POTENTIAL IMPACT	SIGNIFICANCE BEFORE MITIGATION					MITIGATION MEASURE
		Extent	Duration	Intensity	Probability	Significance	
BIOPHYSICAL IMPACTS	Loss of vegetation during construction	1	3	1	1	Low	-The site has very spare vegetation
	Alteration of existing visual perspective	1	4	2	2	High	-Avoid stockpile waste at the site for long periods at a time -All construction materials must be stored away from the site
	Possible groundwater pollution	1	1	1	1	Low	-Groundwater availability in the area is limited and has no potential. -No pollutant must be discharged directly underground or in the open environment.
	Loss of topsoil during construction	1	2	2	2	Moderate	-Soil conservation measures should be used on-site to help reduce erosion. -Topsoil from excavated areas must be stockpiled and protected for later use.
	Land disturbances due to construction activities	1	1	1	2	Moderate	-Avoid soil compaction and limit excavation to the area to be developed. -All open trenches must be filled, and the area must be properly rehabilitated.

	Geotechnical disturbance during construction	1	1	1	1	Low	-Conduct the geotechnical investigation during the construction stage and follow the contour map correctly.
	Potential damage or destruction to undiscovered heritage or cultural sites in the area	1	3	1	1	Low	-There are no archaeological or paleontological grounds to suspend the proposed development. In case of any material of archaeological heritage importance observed during the construction/operation phase, it must be reported to the National Heritage Council.
	Spillage, stockpiles, and other construction-related activities	1	1	2	2	Moderate	-Concrete mixing should be done on a pre-designed SLA underlined by PVC lining or previously disturbed areas. -Any spillage (fuel, oil, chemical, etc. b) must be cleaned up immediately. -All construction material must be sourced off-site from commercial sources.
	Increase demand for water during land servicing and construction of infrastructures (roads, pump stations, water pipelines, etc.)	3	2	2	2	High	-Water usage must be metered. -Freshwater must be used sparingly.
	Impacts of temporary construction camps	1	1	2	2	Moderate	-Construction camps (if allowed) should be properly located away from watercourses. -Provide potable ablution facilities during construction. -The site used for construction camps should be rehabilitated after the construction phase.
SOCIO-ECONOMIC	An increase in traffic within the area is expected due to construction activities and the establishment of townships.	2	1	1	2	Moderate	-Identify new access roads to avoid traffic congestion. -Flagmen and traffic controls should be appointed to regulate the traffic flow of construction vehicles. -Appropriate road signs & markings, sidewalks for pedestrians, and taxi ranks should be provided throughout the layout.

Generation of dust could cause air pollution	1	1	1	2	Moderate	<ul style="list-style-type: none"> -Use dust-suppressing agents -Limit Vehicle speed -Avoid dust-generating activities during strong wind. - The local community and surrounding businesses should be continuously consulted to ensure that the dust levels are acceptable. - Residents and businesses should be informed before construction commences so that they are aware of the planned construction. - Stockpiles and sand being transported should be covered with plastic to reduce windblown dust.
Noise created by construction activities, which might be a nuisance to residents and employees.	1	1	1	1	Low	<ul style="list-style-type: none"> -Construction should be limited to normal working days and office hours (08h00-17h00). -All employees must have the correct PPE. -Watering of all construction haulage signage should be placed at the entrance of the construction areas. Technology such as silencers should be installed on construction machinery. -The use of horns as a general communication tool should not be allowed, they should only be used, when necessary, as a safety measure.
Impact of Construction Camps i.e. noise, waste, pollution, etc.	2	2	2	2	Moderate	<ul style="list-style-type: none"> -Construction camps should be served with ablution facilities. -All waste generated must be collected and disposed of properly safely. -Avoid noise, vibration during odd hours. -Recruit residents to limit the number of people at construction camps.
Installation of bulk infrastructure (water pipeline, pump stations, roads, etc)	2	2	2	2	Moderate	<ul style="list-style-type: none"> -Compliance with all relevant legislation during the installation of the bulk services (water, roads, sewer, and electricity).
Lack of proper waste management could result in pollution and decrease the sense of place of the area	2	2	2	2	Moderate	<ul style="list-style-type: none"> -Provide litter bins at the site. -Building rubble must be collected and disposed of at the Municipal disposal site.

	Land servicing and road construction could result in uncontrolled mining of sand in the area and surrounding	3	2	3	3	High	-Sand to be used for all construction activities should be sourced from authorized borrow pits.
	The new development will attract criminal activities in the area.	1	1	1	1	Low	-All items should be stored away from the sites -Ensure that properties are secured
	Economic development (+ve)	4	2	1	3	Very high	-Contractors should source materials from local suppliers to enhance the local economy.
	Employment of the local community (+ve)	4	4	2	3	Very high	-Local laborers (especially the ones from the affected & neighboring residents) and local contractors (especially SMME's) should be utilized to a greater extent. This should also include the youth, women, and people living with disabilities.

Table 8: 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 more trees to enhance biodiversity.
	Alteration of existing visual perspective	1	4	1	1	Moderate	-Plant more trees to enhance biodiversity.
	Soil, surface, and groundwater impacts	1	4	1	1	Moderate	-Ensure that surface water accumulating on-site are channeled 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, and taxi ranks should be provided at relevant areas. -Provide for speed-reducing interventions such as speed bumps at relevant road sections.
	Increase demand for water and electricity	1	1	1	2	Moderate	-The proposed development is part of the approved town SDF and thus has been included in the demand management plan.
	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	2	2	3	High	-Municipal services on waste collection to be extended to the new townships.

							- Households are to adhere to the municipal regulations with regards to waste disposal.
	Provision of housing delivery (+ve)	4	4	4	4	Very high	-Residents must be given the priority
	Employment of the local community (+ve)	4	4	2	3	Very High	Local laborers (especially the ones from the affected & neighboring residents) and local contractors (especially SMME's) should be utilized to a greater extent. This should also include the youth, women, and people living with disabilities.

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

- The proposed site is suitable for residential and commercial development because it is compatible with the adjacent users. It is easily accessible and can easily be connected to existing bulk supply networks e.g., water, electricity, sewerage, roads, etc.
- The development will enable the Swakopmund Municipality to decrease its housing backlog and minimize the formation of illegal settlements on areas not considered for residential planning.
- Since no objection was received during the consultation period, the project is well received by both I&APs and stakeholders.
- It is also concluded that there are no sensitive cultural or heritage materials on the proposed sites and in case of such material found at the site during the phases of the project, this should be handled as per the National Heritage Act.
- 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

Based on the information provided in the report, the EAP thinks that the development should be authorized because the negative impacts can be mitigated to a satisfactory level. We further recommend that the Swakopmund Municipality should.

- 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.

- Furthermore, the Municipality must ensure that the following height restrictions are adhered to accordingly as provided by the Namibian Civil Aviation Authority (NCAA);
 - No overhead lines allowed within the proposed developed sites of portions 182, 183, and 184. All service lines must be underground.
 - Portion 182,183 and 184, a height restriction of 15m should be ensured.
 - Portion 184, a height restriction of 5m should be ensured.
 - These conditions should form part of the sale of erf conditions of all individual erven located in the respective proposed townships.
- To consult RA to establish an alternative access road from the C34 road to the new proposed developments.

To this end, it is therefore recommended that an Environmental Clearance Certificate be granted for the proposed **subdivisions and township establishments of the remainder of Portion B of Swakopmund town and townlands No. 41 into portions 182, 183, and 184.**

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: BID

APPENDIX B: Proof of Consultations

- **List of IAPs**
- **Newspaper Advertisement**
- **Attendance registers for the Public Meeting**
- **Attendance Register for the Stakeholder meeting**
- **Minutes of the stakeholder meeting**

APPENDIX C: EMP