ENVIRONMENTAL IMPACT ASSESSMSNT REPORT (SCOPING) FOR PROPOSED TRUCKPORT DEVELOPMENT ON PORTION 2 OF REMAINDER OF FARM 38 _ALONG C14 ROAD- WALVIS BAY AIRPORT; ERONGO REGION

Assessed by:

NYEPEZ CONSULTANCY CC

Assessed for:

NAMBAZA INVESTMENTS CC
Proposed Truckport Development
WALVIS BAY INTERNATIONAL
TRUCK-STOP (WBITS)

April 2023

CLIENT NAME:	Nambaza Investments Cc, P.O. Box 7227- Swakopmund, Namibia
ASSIGNMENT:	Conduct an Environmental Impact Assessment Study and Prepare an EIA Study Report for the proposed Truck port on Portion 2 of remainder of Farm 38_Walvis Bay In Erongo Region, Namibia
REPORT TITLE:	Environmental Impact Assessment study report for the proposed Dryland Truck Port on Portion 2 of Remainder Farm 38, Walvis Bay in Erongo Region, Namibia

EXPERT CERTIFICATION

Nyepez consultancy cc a registered EIA Lead firm of expert experienced EIA/EA expert, has prepared this EIA project report. The project report was prepared in accordance with Environmental Management Act, 2007 and the Environmental (Impact Assessment and Audit) Regulations, 2012 for submission to Ministry of Environment, Tourism & Forestry, through the directorate of Environmental Affairs.

I certify that the report contains fair disclosure from the proponent, views of neighbours and recommendations to be undertaken by the proponent.

LEAD EXPERT

Name of Lead Expert: Nyepez Consultancy cc

Company Registration No.

Address: P.O. Box 2325, Katima Mulilo

Contact: +264 814554221: email gsinyepe@yahoo.co.uk

Signature ……..……

Date ……

PROPONENT CERTIFICATION

I, …….. on behalf of Nambaza Investments cc submit this Environmental impact study report for proposed Walvis Bay International Truck-Stop. To my knowledge all information contained in this report is accurate and truthful representation of all findings as relating to the project.

Signature ……

Date ……

Designation ……

Project Name	Proposed Truck Port_ Portion 2 of Remainder Farm 38, Walvis Bay
Client	Nambaza Investments Cc P.O. Box 7227 Swakopmund Namibia Mobile +264 81 1404797 abisai@ndatara.com
Lead Consultant	NYEPEZ Consultancy cc **(Reg CC/2016/07561)** P.O Box 2325 Ngweze Namibia
Date of release	31 May 2023
Contributors to the Report	Stewart Planning Consulting cc
Contact	Mobile: +264 814554221 / 812317252 gsinyepe@yahoo.co.uk

TABLE OF CONTENTS

SITE ASSESSEMENT
PORPOSED NAMBAZA INVESTMENT CC DRYLAND TRUCKPORT DEVELOPMENT FACILITY PORTION 2 OF THE REMAINDER OF FARM 38 OF WALVIS BAY.

Proposed Land Use: Truck port

Total Site Area: 15 Hectares, Portion 2 of the remainder of Farm 38 of Walvis Bay

Brief project Description

Nambaza Investments cc is the proponent and developer that has proposed to establish and develop the dryland truckport project. The project is on a 15 Hectares of Land and is nonexistence and not operational. The project site area is situated within the Walvis Bay townland area, situated about +- 12 kilometres South of the town of Walvis Bay. The project site/ land is vacant and an application for alienation and/or leasehold was applied to the Municipality of Walvis Bay for operation of business land right to operate a dry truck port. Given the intended objective of the proposed truckport, the truck port shall be called 'Walvis Bay International Truck-Stop"

Its proposed business Activities include town planning and subdivision of portion 2 from the remainder of farm, the construction of storage and handling of containers, storage and handling of mining materials in the warehouses, the establishment of long-distance truck parking spaces, warehousing, convenient shop, fuel station (diesel pumps), overnighting or self-catered accommodation rooms, ablution facilities and a reception stamp duty clearance office. Other basic services such as water are available onsite, electricity will be provided and established by ErongoRed on the facility once the clearance is acquired. Other safety and truck port compliance measures like consent from relevant stakeholder such as Walvis Bay Municipality and Roads Authority shall be acquired as required. The site is associated with open desert dune and dry savannah with small plant, with no surface watercourse and no wildlife conservation area.

Nambaza Investments cc (Nambaza - CC/2009/01680) supported by The National Petroleum Corporation of Namibia (NAMCOR) expressed interest to develop a truck port on a demarcated parcel of land measuring 36 hectares. The said parcel of land is situated South of the C14 highway to the Walvis Bay International airport with the following GPS position 22°58'13.0"S 14°33'01.9"E. This proposal is motivated by shared interest for a World Class Truck port in Walvis Bay to support the national development ambitions, as well as the Municipality and the Port to manage freight traffic better. Nambaza propose to add services and development required to facilitate the truck port. The proposed truck port will include:

• A NAMCOR branded fuel station and convenient store

- Tyre repair and truck repair services
- Accommodation and ablution facilities
- Parking spaces for 111 trucks plus 30 parking spaces for light vehicles
- Wellness Clinic
- Cargo Warehouses and other supporting facilities

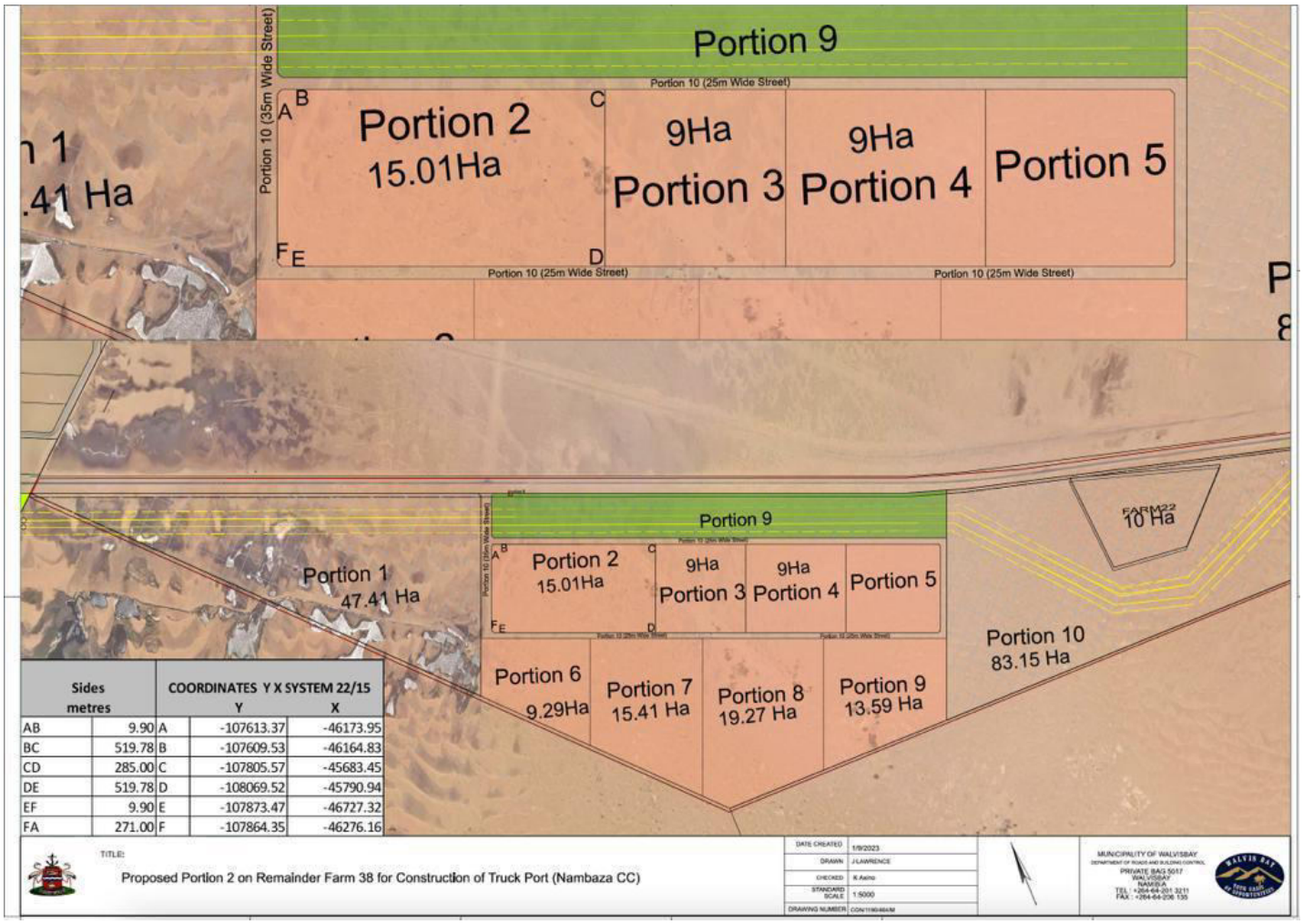


Figure 1: *Subdivision plan (Portion 2, 15.01 hectares truckport project area)*

1. INTRODUCTION

1.1 Background

Nambaza Investments cc is the proponent and developer that has proposed to establish and develop the dryland truck port project. The project is on a 15 Hectares of Land and is nonexistence and not operational. The project site area is situated within the Walvis Bay townland area, situated about +- 12 kilometres south of the town of Walvis Bay. The project site/ land is vacant and an application for alienation and/or leasehold was applied to the Municipality of Walvis Bay for operation of business land right to operate a dry truck port. Given the intended objective of the proposed truckport, the truck port shall be called 'Walvis Bay International Truck-Stop"

Its proposed business Activities include town planning and subdivision of portion 2 from the remainder of farm, the construction of Storage and handling of containers, Storage and handling of mining materials in the warehouses, the establishment of long-distance truck parking spaces, warehousing, Convenient shop, fuel station (diesel pumps), overnighting or self-catered accommodation rooms, ablution facilities and a reception stamp duty clearance office. Other basic services such as water are available onsite, electricity will be provided and established by ErongoRed on the facility once the clearance is acquired. Other safety and truck port compliance measures like consent from relevant stakeholder such as Walvis Bay Municipality and Roads Authority shall be acquired as required. The site is associated with open desert dune and sandy dunes with small plant, with no surface watercourse and no wildlife conservation area.

The aim of the WITS development is primarily to give long distance truckers an opportunity to rest, refresh and feel at home in Walvis Bay. The additional amenities proposed for the WITS are intended to boost these objectives by creating a one stop centre for logistics to enable a faster truck turnaround time in Walvis Bay. The project will be done in two phases. Phase 1 - the development of the Truck-Stop and Parking (WITS) with the parking, ablution, convenient shop, workshop and site offices. Phase 2 - the development the auxiliary services (Logistics centre).

1.2 Terms and reference

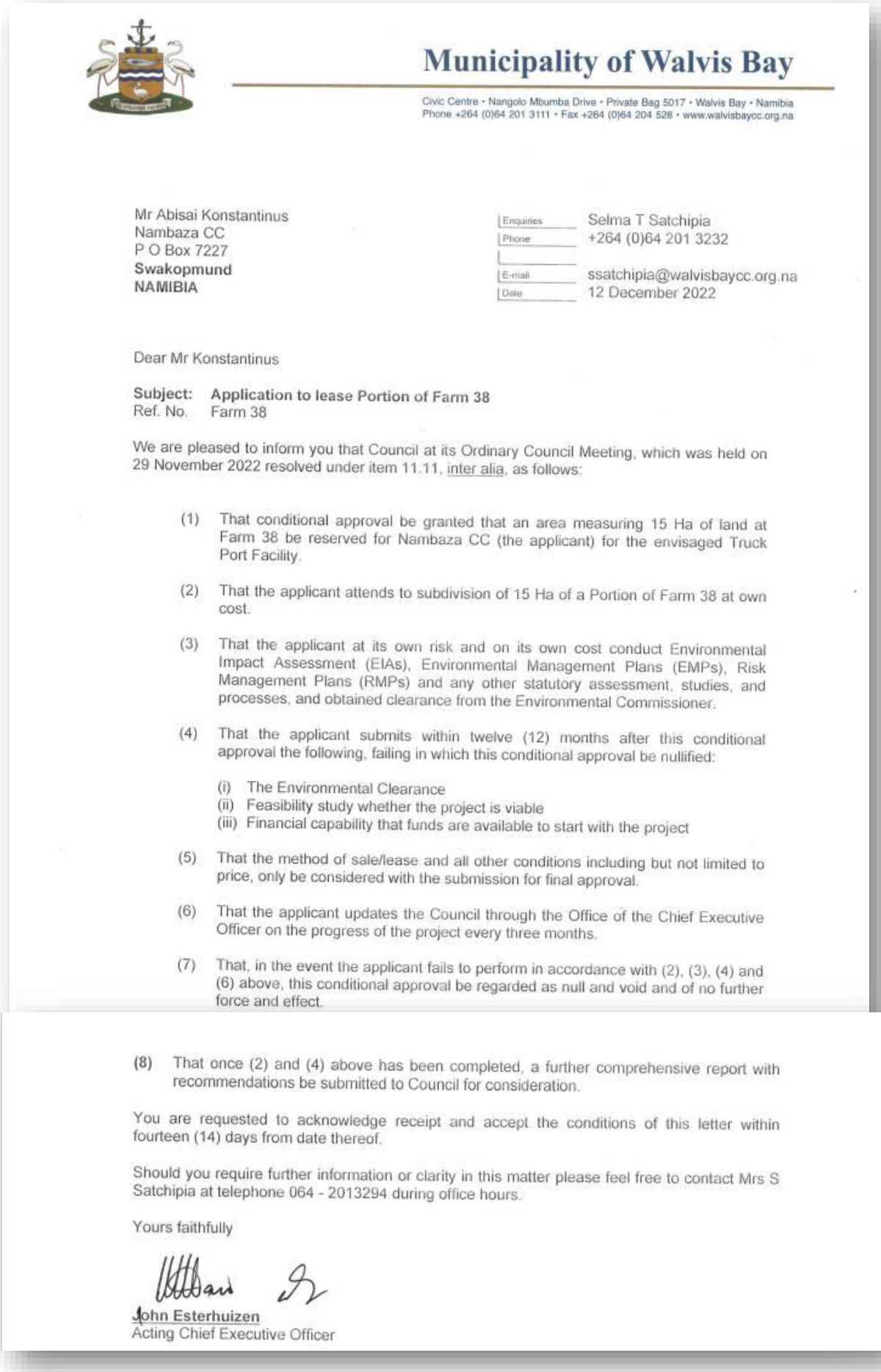
The terms of reference for this Environmental Assessment are to determine the potential bio-physical and social impact emanating from the construction and operation of the proposed truck port project. The aims and objectives of the assessment are:

- To establish and describe the known ecological baseline conditions for environmental, health and social conditions existing in the project area from secondary information and a reconnaissance site visit
- To conduct an environmental impact identification and assessment and to provide a description of the likely environmental impacts of the proposed project during the construction and operation phases
- To also demonstrate that the Environmental Assessment complies with the current and/or expected Namibian legislation requirements for environmental, social performance and health.
- To identify and draft actions for environmental and social management plan of the proposed farming project
- To identify and document mitigation measures to minimise identified adverse environmental impacts

Based on the above the ESMP lists those management actions that are needed to ensure that undue or reasonably avoidable adverse impacts of the planning, construction and operations of the project are prevented and that the positive benefits of the project are enhanced or increased. It also gives responsibilities and will be used as a checklist to monitor compliance at the site.

2. CURRENT LAND USE

In terms of the Local Authorities Act 23 of 1992, the proposed site is under the jurisdiction of the Walvis Bay townland and permission to lease and/or usage was obtained from the relevant Walvis Bay Municipality who approved the sale and allocation of the said portion (see annexure). The proposed portion 2 of the farm 38 of Walvis Bay townland is currently vacant, the proposed truck port is not operational and shall only be established once the relevant permits or documents from the relevant authorities related to this project are approved. The proposed project site is currently zoned “undetermined”, however a suitable zoning shall be applied and incorporated to change to the zoning “special use” where Truck port activities are permitted.



Municipality of Walvis Bay

Civic Centre • Nangolo Mbumba Drive • Private Bag 5017 • Walvis Bay • Namibia
Phone +264 (0)64 201 3111 • Fax +264 (0)64 204 528 • www.walvisbaycc.org.na

Mr Abisai Konstantinus
Nambaza CC
P O Box 7227
Swakopmund
NAMIBIA

Enquiries: Selma T Satchipia
Phone: +264 (0)64 201 3232
E-mail: ssatchipia@walvisbaycc.org.na
Date: 12 December 2022

Dear Mr Konstantinus

Subject: **Application to lease Portion of Farm 38**
Ref. No. Farm 38

We are pleased to inform you that Council at its Ordinary Council Meeting, which was held on 29 November 2022 resolved under item 11.11, inter alia, as follows:

(1) That conditional approval be granted that an area measuring 15 Ha of land at Farm 38 be reserved for Nambaza CC (the applicant) for the envisaged Truck Port Facility.

(2) That the applicant attends to subdivision of 15 Ha of a Portion of Farm 38 at own cost.

(3) That the applicant at its own risk and on its own cost conduct Environmental Impact Assessment (EIAs), Environmental Management Plans (EMPs), Risk Management Plans (RMPs) and any other statutory assessment, studies, and processes, and obtained clearance from the Environmental Commissioner.

(4) That the applicant submits within twelve (12) months after this conditional approval the following, failing in which this conditional approval be nullified:

(i) The Environmental Clearance
(ii) Feasibility study whether the project is viable
(iii) Financial capability that funds are available to start with the project

(5) That the method of sale/lease and all other conditions including but not limited to price, only be considered with the submission for final approval.

(6) That the applicant updates the Council through the Office of the Chief Executive Officer on the progress of the project every three months.

(7) That, in the event the applicant fails to perform in accordance with (2), (3), (4) and (6) above, this conditional approval be regarded as null and void and of no further force and effect.

(8) That once (2) and (4) above has been completed, a further comprehensive report with recommendations be submitted to Council for consideration.

You are requested to acknowledge receipt and accept the conditions of this letter within fourteen (14) days from date thereof.

Should you require further information or clarity in this matter please feel free to contact Mrs S Satchipia at telephone 064 - 2013294 during office hours.

Yours faithfully

John Esterhuizen
Acting Chief Executive Officer

Figure 2: *Council Approval_Nambaza Investment cc (Truck-port development)*

3. ACCESSIBILITY TO SERVICES & COMMUNITY FACILITIES

The said parcel of land is situated South of the C14 highway to the Walvis Bay International airport with the following GPS position 22°58'13.0"S 14°33'01.9"E. The site is accessible and may be accessed through the tarred road to the Walvis Bay International airport, which is the road connecting Walvis International Airport with the rest of Walvis Bay town. Authority to establish a feeder access road adjoining the C14 main road was acquired and was guaranteed by the Road authority (see annexure). The access road to be created will serve as a link or access entrance and exist point for the proposed truck port development.

Surrounding the proposed project area (portion 2 of farm 38) are other existing demarcated portions of farmland under the ownership of Walvis- Bay Municipality. The different portions are portions of land reserved for other future Industrial business commercial development projects which shall in-turn create a build-up or hub of integrated Industrial land uses in the areas toward the Walvis International airport. There is no existing land use activity on the site.

Figure 3: *C14 Access-road to the project site*

Figure 4: *Surrounding Industrial development*

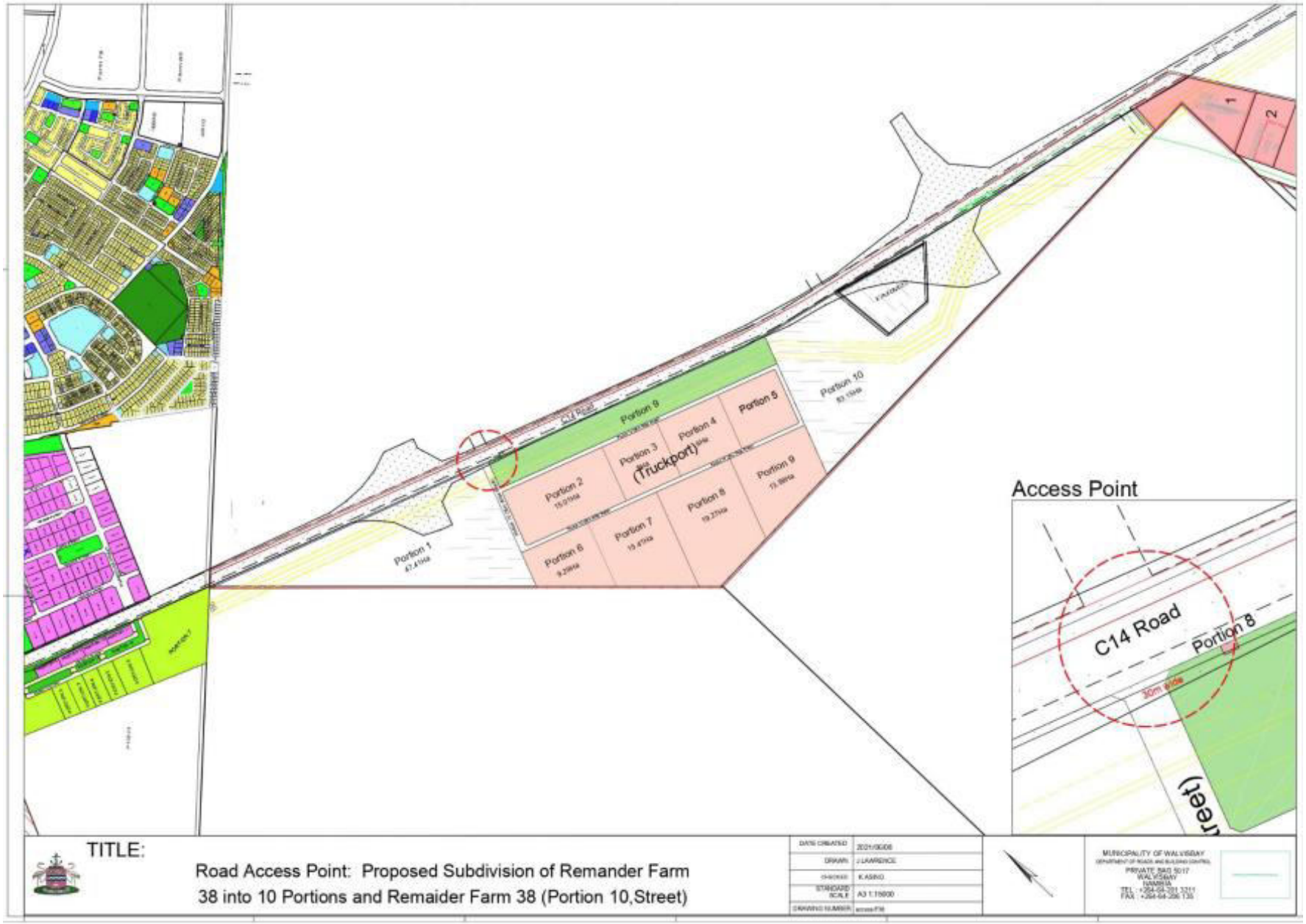


Figure 5:
Proposed access entry & exist point for the truck port

The municipality of Walvis Bay applied for access points of the proposed truck port development on behalf of the proponent to spearhead the process as the custodians of the townlands where the proposed land is situated. The application was received and is being processed and the proponent is waiting for a formal letter so as to ensure compliance and adhere to the national road traffic and standards.

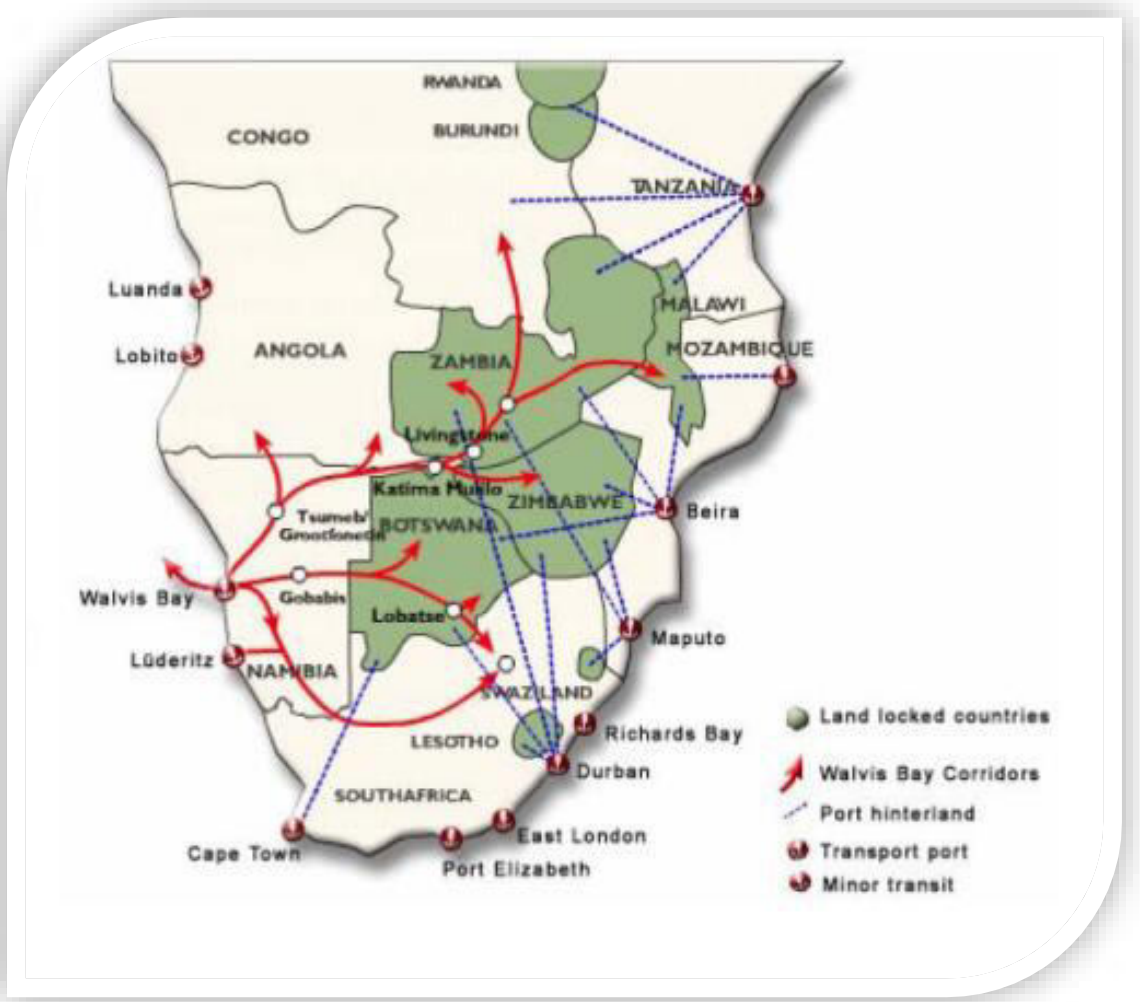


Figure 6: *Walvis Bay transport corridor routes to Southern African Countries (Walvis Bay IUSDF, 2011)*

4. OWNERSHIP

In terms of the Council resolution of the Walvis Bay Municipal Council, the proposed project site is (portion 2 of the remainder of Farm 38), as per Municipal Council Meeting decision, Resolution Number 29/11/2022, portion 2 of portion 38 inextant of 15 (plus 3 hectares of road reserve) was allocated to Nambaza Investment cc through private treaty for the development and/or establishment of a Truck port facility. The proposed project area was therefore legally acquired as per the attached Management Committee resolution.

5. PROPOSED LAND USE ON THE PROJECT

During the construction and operation phase, the proposed development will consist building infrastructures and operational activities on-the site. The WITS campus will span 15 hectares of truck parking and auxiliary amenities estimated at N$100 million. This will be including:

- A 24-hour Convenient store with sit down area
- Two (2) island forecourt for trucks with underground fuel tanks
- One (1) island forecourt for normal cars with underground fuel tanks
- Medical office, a gym and a barbershop
- 111 parking bays for trucks and 30 parking bays for normal cars
- Truck service area for tyre repair, lube changing and truck repair
- Admin office area for resident logistics companies
- Training Centre for Maritime and Logistics
- Container storage and handling yard and dispatch
- Self-catering accommodation units to truckers & visitors

6. POLICY AND LEGAL FRAMEWORK

Table 1: describes the environmental framework of the project.

LEGISLATION/GUIDELINE/POLICY	APPLICABLE CLAUSE/POLICY	COMMENTS
Namibia 's Environmental Assessment policy (1995)	List of activities that require EA.	Tourism facilities need to be assessed in terms of the impact on the natural and social environmental and resources.
Local Authorities Act 23 of 1992	To provide for the determination, for purposes of local government, of local authority councils;	The establishment of such local authority councils; and to define the powers, duties and functions of local authority councils;
Urban and Regional Planning Act, 2018.	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 decentralise certain matters relating to spatial planning
Environmental Management Act, 2007	Listing of activities and prohibition in respect of listed activities through EMA Regulations	To promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment;
Inland fisheries resources act,2003	Promotion, sustainable utilisation	A fishing licence need to be

and regulations	and protection of inland fisheries resources. Restrictions by limiting number of nets, mesh, sizes, net length and damaging fishing methods.	obtained from the regional office to engage in recreational fishing in any inland waters by means of any regulated fishing gear.
Walvis Bay Town Planning Scheme/ Zoning Scheme 2014	Provides for the clear description of land uses within Walvis Bay local authority together with restrictions of use	Statutory document serving as a strategic guide tool to control land use and ensure/enforce compliance
Namibia transport Act 22 of 1999	Guides and control the use of road by heavy and light vehicles on Namibian public roads	Control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia' s borders
Walvis bay Integrated Urban Spatial Development Framework 2015	IUSDF) for Walvis Bay which includes the necessary urban and environmental management policies and plans and urban development programmes to guide and manage urban growth that is completed and adopted by Council.	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 decentralise certain matters relating to spatial planning;

Table 2: Other relevant legal frameworks related to waste management in Namibia

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

by oil Act 24 of 1991	
UN Convention on the Law of the sea, 1982	*Protection and preservation of the marine environment including the seabed, ocean floor, subsoil and the resources in the environment.*
Water Resources Management Act No. 24 of 2004	*Prevention of water pollution.*

6.1 Environmental Assessment Practitioner (EAP)

Nambaza Investments cc has appointed Nyepez Consultant cc to apply for an Environmental Clearance Certificate from the Ministry of Environment, Tourism & forestry for compliance purposes. The Environmental Impact Assessment (EIA) will be conducted under the requisites of the Environmental Management Act (EMA) (Act 7 of 2007) and its Regulations (2012)

7. DESCRIPTION OF THE PROPOSED PROJECT

7.1 Locality

The development will be situated on a major national road, the C14 road between Walvis Bay urban and Walvis Bay international Airport. The site is located west of the C14 highway – about 3km South of Dune's Mall on the following GPS position 22°58'13.0"S 14°33'01.9"E. The site has good access from the national distributor highway (BC14) – and fast connectivity with the port of Walvis Bay (~ 10 minutes / 5km). Figure 3 below illustrates the location of the proposed WITS development in context to the B2 highway and the town of Walvis Bay. The exact site profile and location will be discussed in the subsequent site analysis section.

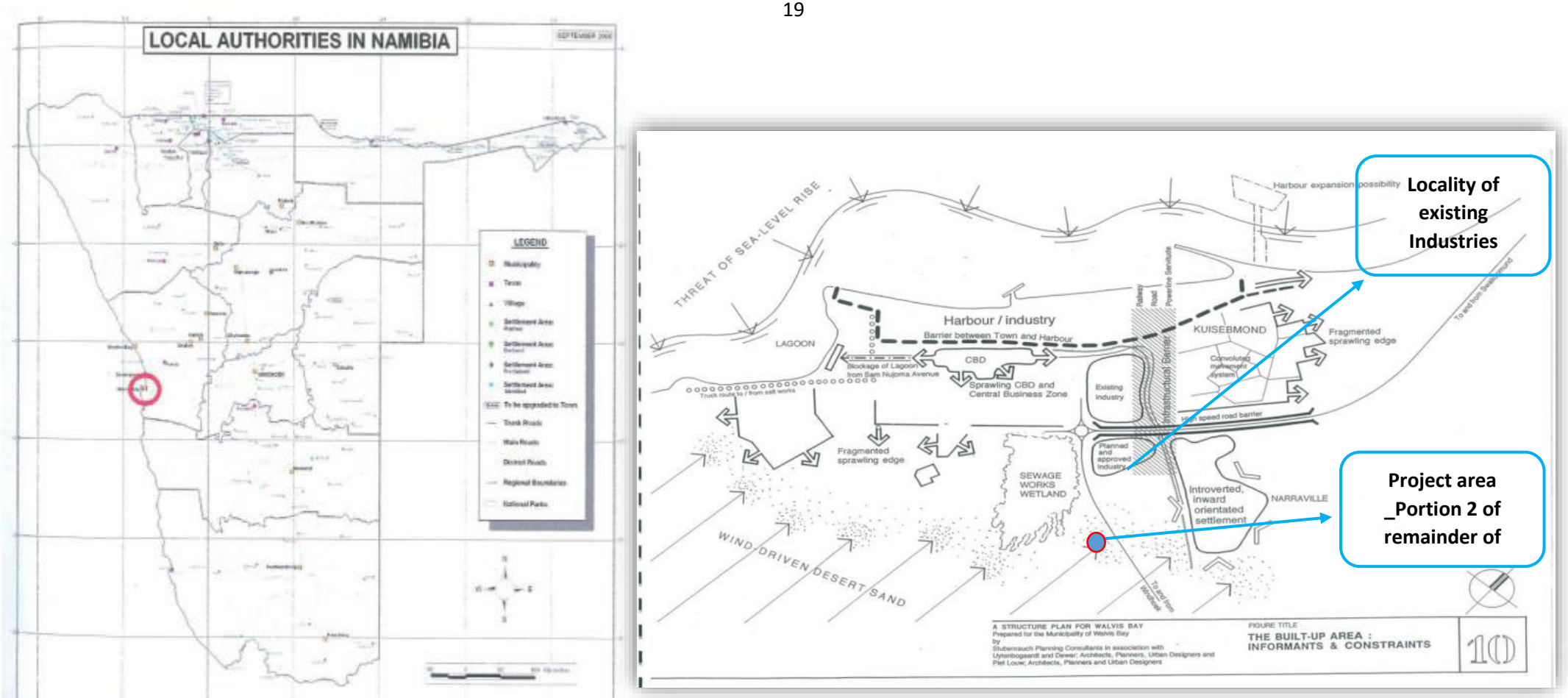


Figure 7: *Walvis Bay Local Authority Area & Project area (structure plan, 2011).*

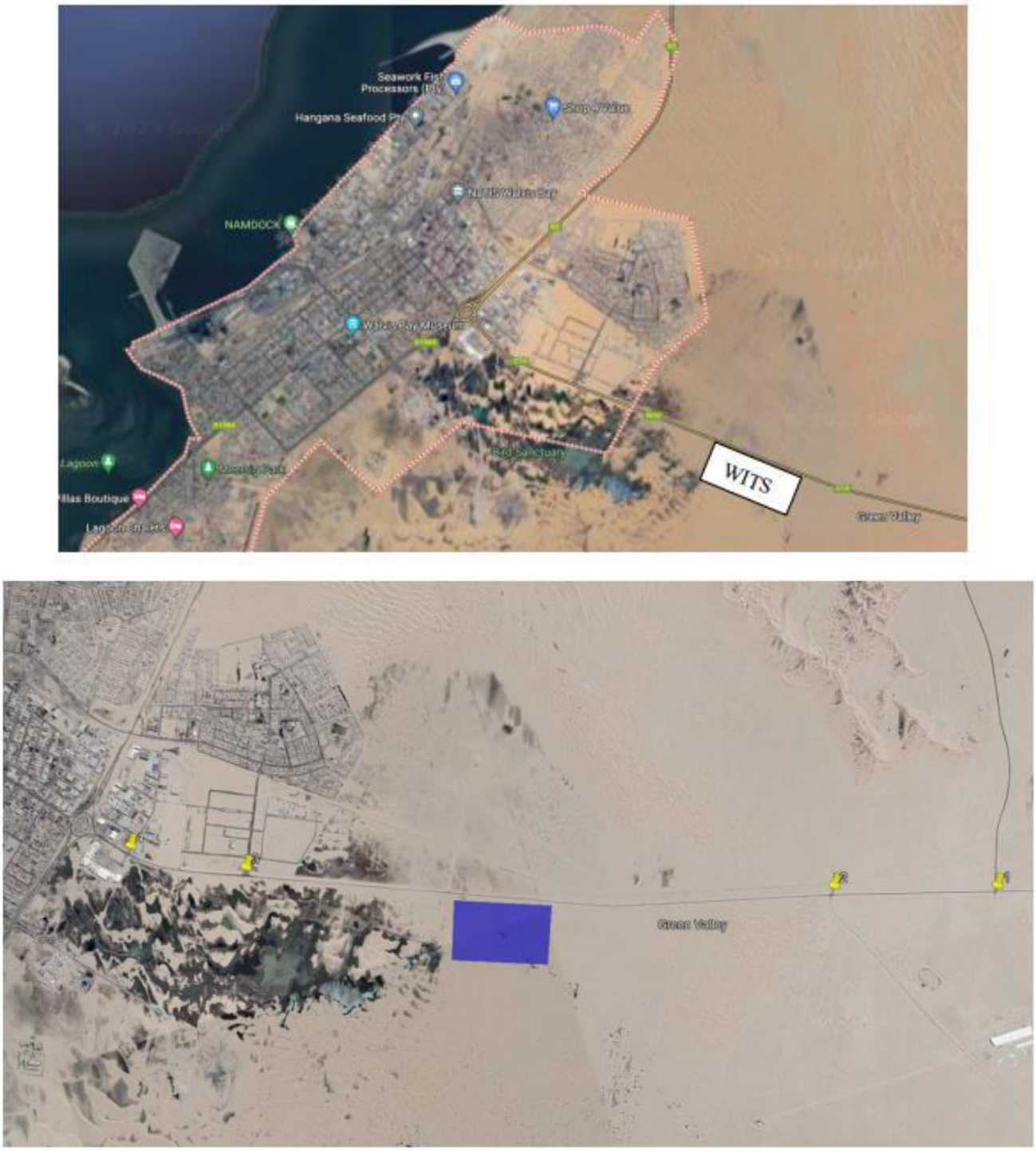
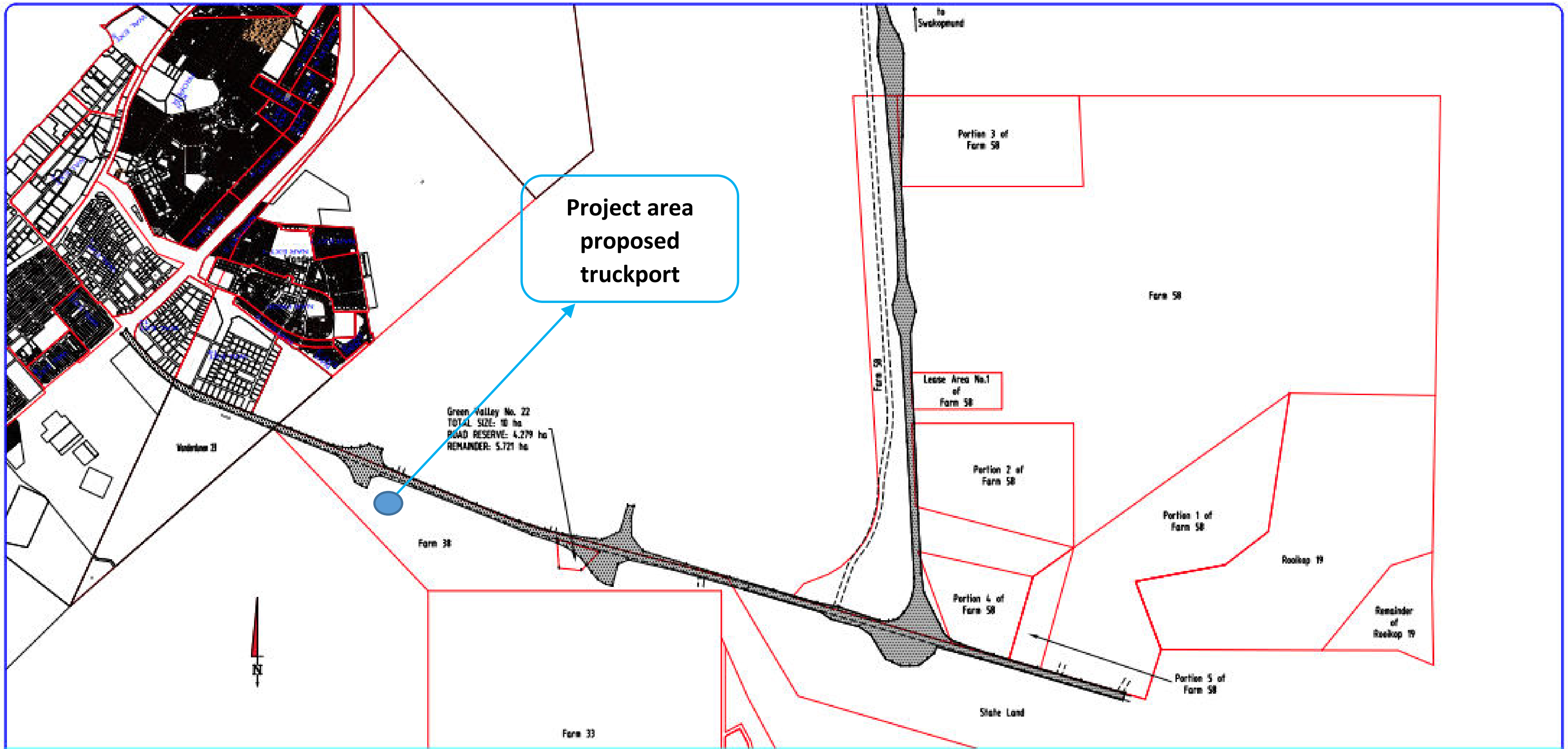
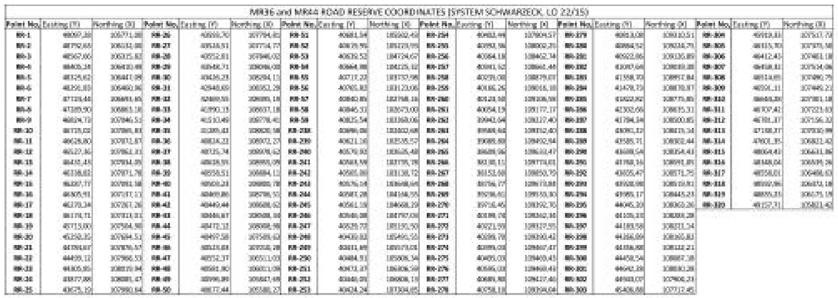


Figure 8: *Locality plan, project site area*



PROPERTIES OWNERS CONTACT DETAILS				
Farm Name	Farm Owner	Cellphone Number	Telephone Number	Address
Farm 58	Walvis Bay Municipality		+264 64 201 3111	Civic Centre, Nangolo Mbumba Drive, Walvis Bay
Prt. 2 of Farm 58	Walvis Bay Municipality		+264 64 201 3111	Civic Centre, Nangolo Mbumba Drive, Walvis Bay
Prt. 4 of Farm 58	Walvis Bay Municipality		+264 64 201 3111	Civic Centre, Nangolo Mbumba Drive, Walvis Bay
Farm 38	Walvis Bay Municipality		+264 64 201 3111	Civic Centre, Nangolo Mbumba Drive, Walvis Bay
Wanderdünen 23	Walvis Bay Municipality		+264 64 201 3111	Civic Centre, Nangolo Mbumba Drive, Walvis Bay
Green Valley No.22	Green Valley Properties CC	+264 81 129 8606	+264 81 273 9363	Grant, Thornton, Neuhaus Accountants, 12th Floor, Sanlam Building, Windhoek



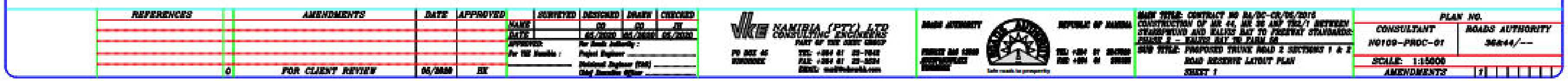


Figure 9: *Locality map & Coordinates for project area*

7.2 Project Rationale

The aim of the WITS development is primarily to give long distance truckers an opportunity to rest, refresh and feel at home in Walvis Bay. The additional amenities proposed for the WITS are intended to boost these objectives by creating a one stop centre for logistics to enable a faster truck turnaround time in Walvis Bay. The project will be done in two phases. Phase 1 - the development of the Truck-Stop and Parking (WITS) with the parking, ablution, convenient shop, workshop and site offices. Phase 2 - the development the auxiliary services (Logistics centre) The development of a World Class Truck Stop is motivated by several reasons shared both by industry agents and public agents, notably:

- The un-availability of truck parking areas at port premises leading to haphazard parking (e.g., along the roadway, on road shoulder etc).
- Poor traffic flow in Walvis Bay due to increasing freight trucks on roads.
- Road dilapidation due to uncontrolled flow of heavy freight trucks.
- Increasing market requirements for a higher level of truck parking.
- The need to develop Namibia as a logistics hub with an efficient transport network and distribution centres. The WITS is thus needed to support the municipality of Walvis Bay and to assist Namibia in its development ambitions as a logistics hub.

Nambaza Investments cc (Nambaza - CC/2009/01680) supported by The National Petroleum Corporation of Namibia (NAMCOR) expressed interest to develop a truck port on a demarcated parcel of land measuring 15 hectares. The project has already received endorsement from the land owners, which is the Walvis Bay Municipality. The intention for applying for the clearance certificate is therefore to ensure the continuous operation and existence of the project to run it in a profitable, eco-friendly and sustainable way. The aim is to follow the Principles of Eco-development and offer clients the attraction that conserves the environment and improves the well-being of local people. Eco-project development is about uniting conservation, communities, and sustainable environmentally friendly project by minimizing impact on the environment

- To minimize the impact of new truck port development on the Environment, including natural resources, local residents and existing surrounding land uses;
- To ensure site selected for truck port is appropriate for long term operation and that methods are sustainable;
- To ensure proper consideration of the effects of new developments on truck port facilities;

- To ensure compliance with environmental requirements.
- Provide training and empowerment for local communities to achieve sustainable development in the region and create jobs for the local community (estimated about 50 skilled and unskilled to be employed)

7.3 Truck-port Benefits (Traffic Movement & Flow Benefits)

The report shows that an inland dryland truck port terminal in the entire region of Namibia, Erongo region in particular, could achieve traffic, economic, social, and environmental benefits.

Table 2: Traffic Movement & Flow Benefits

Traffic Benefits Focus on cargo flow, modelling assumptions, and traffic impacts to help determine the traffic benefits of an inland port like the Walvis Bay International Truck-Stop (WITS) proposed truckport. This will reduce and decrease illegal stop overs of trucks in transit to other countries in southern Africa	
Controlled safe parking for trucks	The implementation of this project on the Walvis Bay townland and Erongo region will guarantee and assist in ensuring security for long distance truckdrivers and the trucks. The project plans to offer different services at one stop area where all paper work will be completed before departing to different territorial boarders.
Effective and Efficient service delivery	The proposed truckport ensures fast service delivery such as the clearing of consignments or good transported to other countries. This will reduce the workload of migration officers and will reduce the long hours and queues taken by drivers in conducting this activity at the boarders.
Employment creation and contribution to GDP	The establishment of the truckport will creation employment opportunities to residents of Walvis Bay community and to residents of Erongo region at large. It shall also add value to the country's GDP as truck drivers are required to pay service some of money for using these services through VAT charge. This will contribute to the regional revenues collected through transport services. – the development of the inland port would attract investment to the area and generate much-needed jobs and economic development opportunities for the region

Adherence to transportation Standard	The establishment of dryland truckport have and will certainly meet the transport standards as the Erongo region is considered the harbour town centre aimed to receive, store and for distributing of received goods to most southern African countries in Namibia. Having multiple internationally recognised borders linking other African countries make is necessary for Erongo region as a central and connecting region to have a truck port which shall serve and meet the demands of long-distance trucks in transit to neighbouring countries.
Improved Service to Shippers at a Potentially Reduced Cost	Shippers would benefit from being able to drop off export cargo closer to their location, and terminal operators would benefit from the ability to schedule loads of this export cargo for arrival at the truckport during non-peak terminal hours. The truckport operator could also plan for the cargo load list associated with the transportation.
Reduced Carbon Emissions	The reduction in truck trips and mileage driven means lower fuel consumption and reduced carbon emissions of approximately 10,000 tonnes a year with the conservative scenario. The primary environmental benefit is from a reduction in greenhouse gas emissions. Secondary benefits include reduced vehicle idling from less traffic congestion and lower air pollution. The fewer truck kilometres driven in the trucks and the elimination of truck trips in the Mainland results in significantly less diesel fuel consumed and, therefore, a sizeable reduction in carbon emissions.

7.4 Facility Overview

The proposed inland facility would have the following capabilities:

a) "Hook and haul" service to mainline truck drivers. This means that the facility will not delay the trucks, and therefore will be able to exchange car strings from full-length intermodal trucks in less than one hour. The facility's design, equipment, and staffing must enable this level of service.

b) Supporting design - the facility will be secured with fencing and have on-site security enabling storage of international cargo. The facility will have a cargo transfer warehouse that allows trans-loading from trucks, and shipping containers.

c) Inventory - the facility must and will effectively manage a range of empty containers and operate in close coordination with the customers, terminals, and the rest of the supply chain. This implies investment in technology, management staff, and nearly 24-7 operations.

d. Construction Approach -The proposed WITS truckport construction will be carried out in an environment friendly manner following the principles of balance cut and fill. Excess excavated materials will be disposed of in the preidentified approved disposal sites. Climate change adaptation (CCA) measures of improved adequate drainage constructions will be carried out.

e. Project Cost and Implementation Schedule - The WITS campus/Truckport will span 15 hectares of truck parking and auxiliary amenities estimated at N$100 million. This will include design, management, supervision costs and the construction of infrastructure for truck port is scheduled to start by November 2023 and expected to be completed by March 2024 within 1 year. The construction will be done in phases.

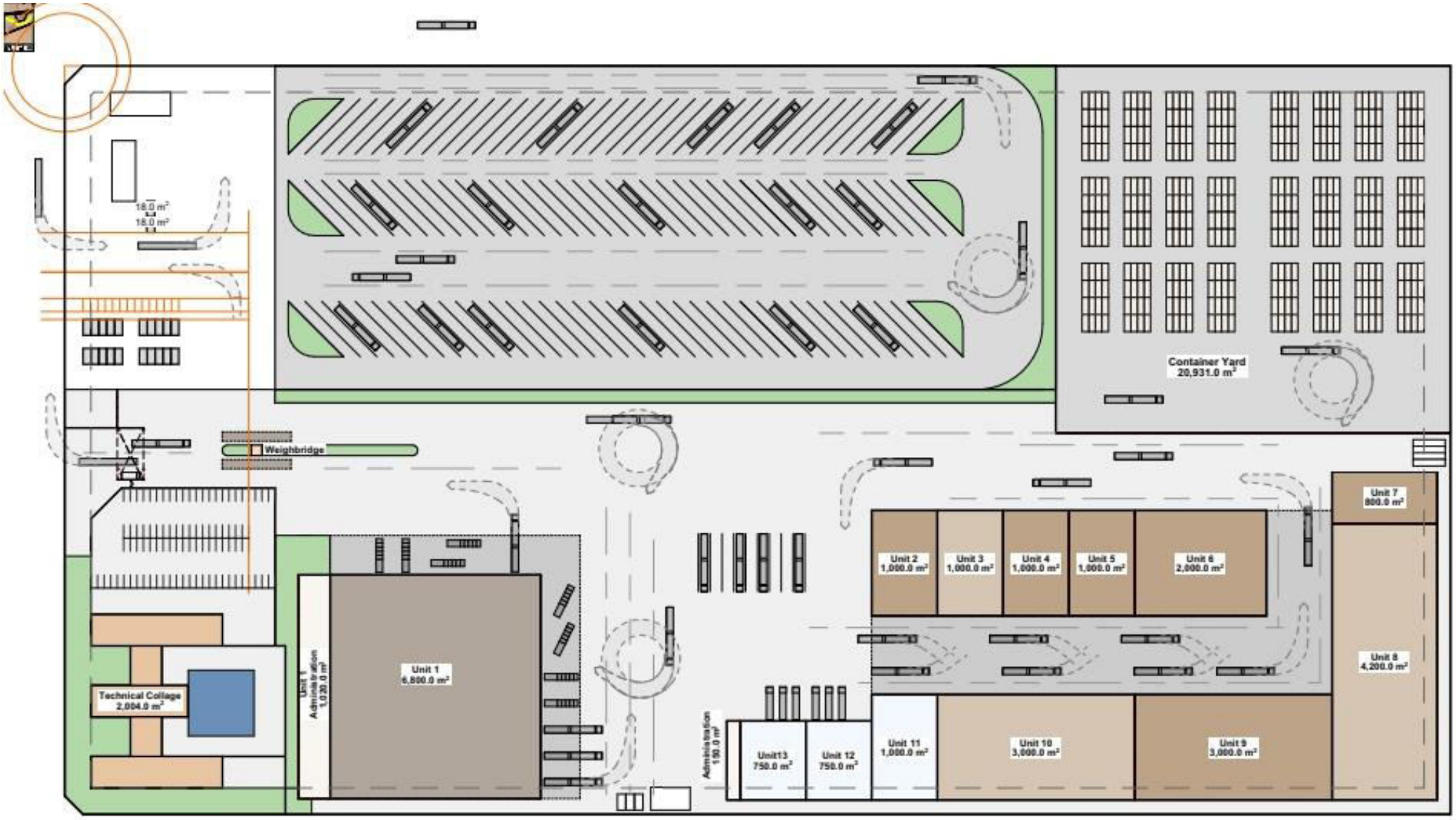


Figure 10: *Project (Internal) layout design*

Figure 11: *Proposed Truck port layout design*

8. ENVIRONMENTAL AND SOCIAL OVERVIEW OF THE AFFECTED ENVIRONMENT

8.1 Introduction

In the following sections the current biological, physical and socio-economic conditions of the study area are discussed and their sensitivities to change are considered

8.2 Climate

The climate of the area is fundamental in determining the availability of water and also reveals much about its ecological sensitivity and resilience to change. The climate data below (table below) is typical for Erongo region as part of the name desert and is expected to occur at the truckport site. The climate in Walvis Bay is comfortable and mostly clear. Over the course of the year, the temperature typically varies from 50°F to 71°F and is rarely below 45°F or above 86° Based on the tourism score, the best time of year to visit Walvis Bay for warm-weather activities is from mid November to late May.

Along the coast the southerly and south-westerly winds dominate both in frequency (30-45 %) and strength (6 to more than 9 m/s), whereas the variable winds of the interior do not present a clear pattern. The warm, dry and dusty easterly winds that blow during late autumn and early winter, cause much discomfort along the coast as it is usually hot as well. The cool air mass above the cold Atlantic Sea water is overlain by a warmer, dry air mass, resulting in an almost permanent temperature inversion. Relative humidity is usually higher than 80%. These conditions are ideal for the formation of fog and low stratus clouds. On average approximately 100 days are foggy, while there is a somewhat higher occurrence during winter along the central coast. This fog blanket is an important, and sometimes the sole source of moisture for the fauna and flora of the Namib Desert.

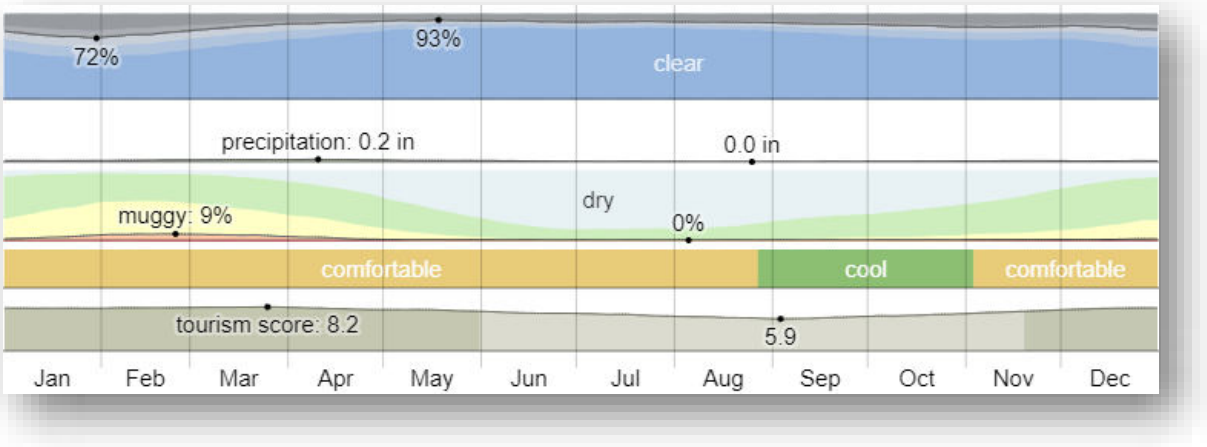


Figure 12: *Avarage Percentage of climate in Erongo region(Walvis bay)*

8.2.1 Temperature

For the purposes of this report, the geographical coordinates of Walvis Bay are -22.958 deg latitude, 14.505 deg longitude, and 20 ft elevation. The topography within 2 miles of Walvis Bay contains only modest variations in elevation, with a maximum elevation change of 125 feet and an average elevation above sea level of 15 feet. Within 10 miles also contains only modest variations in elevation (377 feet). Within 50 miles contains only modest variations in elevation (2,884 feet). The area within 2 miles of Walvis Bay is covered by sparse vegetation (40%), bare soil (25%), grassland (17%), and water (16%), within 10 miles by bare soil (49%) and water (39%), and within 50 miles by water (48%) and bare soil (46%).

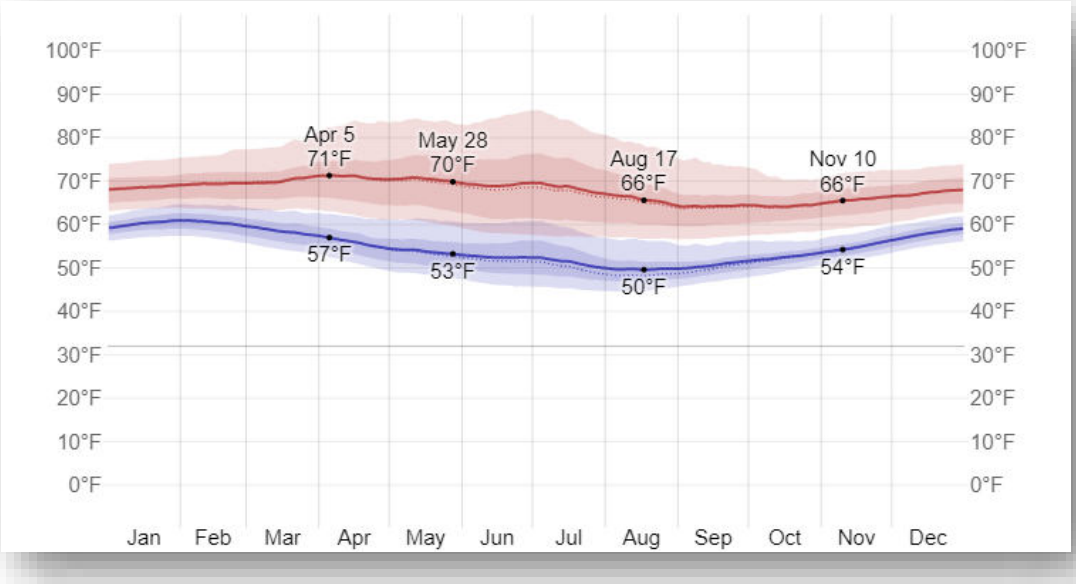


Figure 13: *The average temperatures in walvis bay*

8.2.2 Clouds

In Walvis Bay, the average percentage of the sky covered by clouds experiences significant seasonal variation over the course of the year.The clearer part of the year in Walvis Bay begins around March 7 and lasts for 9.5 months, ending around December 24.The clearest month of the year in Walvis Bay is May, during which on average the sky is clear, mostly clear, or partly cloudy 93% of the time.The cloudier part of the year begins around December 24 and lasts for 2.5 months, ending around March 7. The cloudiest month of the year in Walvis Bay is January, during which on average the sky is overcast or mostly cloudy 25% of the time.

8.2.3 Precipitation

Walvis Bay does not experience significant seasonal variation in the frequency of wet days (i.e., those with greater than 0.04 inches of liquid or liquid-equivalent precipitation). The frequency ranges from - 0% to 3%, with an average value of 1%.

Among wet days, we distinguish between those that experience rain alone, snow alone, or a mixture of the two. The month with the most days of rain alone in Walvis Bay is March, with an average of 0.7 days. Based on this categorization, the most common form of precipitation throughout the year is rain alone, with a peak probability of 3% on April 6.

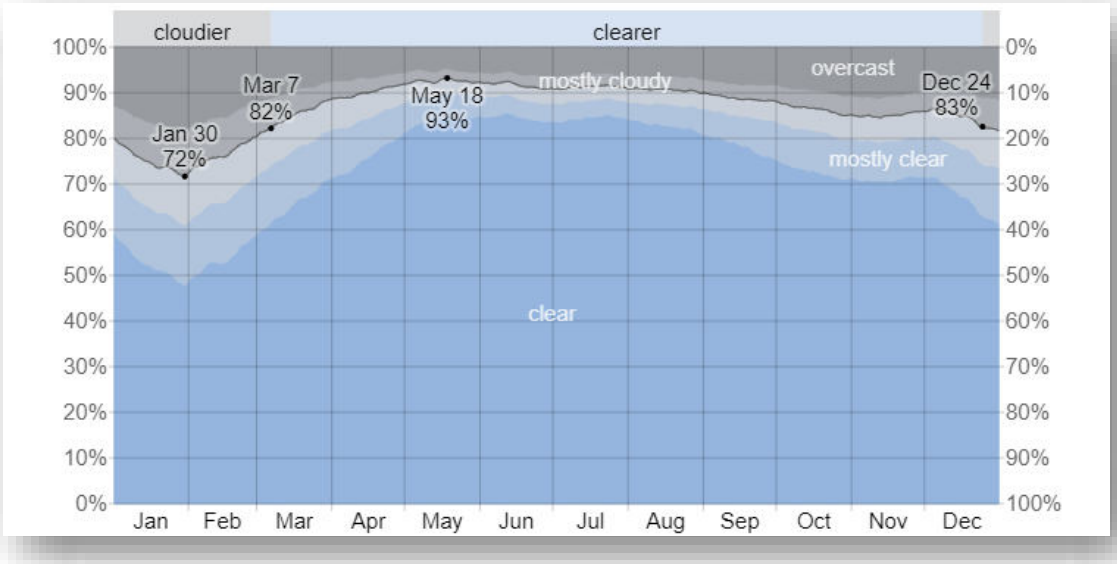


Figure 14: *The average precipitation percent in walvis bay*

8.2.4 Humidity

We base the humidity comfort level on the dew point, as it determines whether perspiration will evaporate from the skin, thereby cooling the body. Lower dew points feel drier and higher dew points feel more humid. Unlike temperature, which typically varies significantly between night and day, dew point tends to change more slowly, so while the temperature may drop at night, a muggy day is typically followed by a muggy night. The perceived humidity level in Walvis Bay, as measured by the percentage of time in which the humidity comfort level is muggy, oppressive, or miserable, does not vary significantly over the course of the year, staying within 5% of 5% throughout.

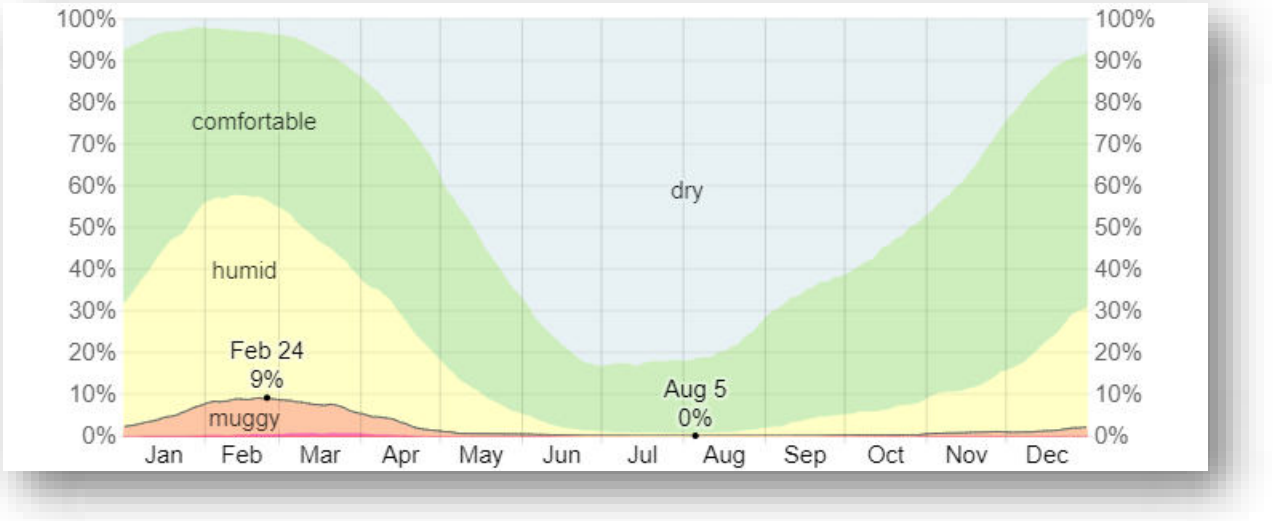


Figure 15: *The average Humidity in walvis bay*

8.2.5 Wind

This section discusses the wide-area hourly average wind vector (speed and direction) at 10 meters above the ground. The wind experienced at any given location is highly dependent on local topography and other factors, and instantaneous wind speed and direction vary more widely than hourly averages.

The average hourly wind speed in Walvis Bay experiences mild seasonal variation over the course of the year. The windier part of the year lasts for 6.0 months, from May 30 to November 29, with average wind speeds of more than 8.7 miles per hour. The windiest month of the year in Walvis Bay is July, with an average hourly wind speed of 9.4 miles per hour. The calmer time of year lasts for 6.0 months, from November 29 to May 30. The calmest month of the year in Walvis Bay is March, with an average hourly wind speed of 7.9 miles per hour.

8.3 Topography, Geology and soils

Aeolian sedimentation processes are active in the Kalahari and Namib Deserts, where dunes and Hamada type landscapes prevail. Chemical weathering is hampered, mostly due to the lack of moisture. In the western Namib Desert, however, the breakdown of bedrock material is caused by salt contained in the coastal fog and derived from the marine environment. Tertiary and Quaternary deposits, such as dunes and flat sand plains, are morphological features dominant in the Kalahari and Namib Desert. Due to the low relief in these areas, calcareous deposits can be found in weakly eroded valleys.

Large areas of the Namib are completely soilless, with bedrock at the surface. Other areas are covered with shifting sand. Soils that do occur are often highly saline, impregnated with gypsum, or cemented

firmly by calcium carbonate, the latter forming a calcrete layer just below the surface. Walvis Bay, with its large bay and sand dunes, is an important centre of tourism activity in Namibia. Attractions include the artificial Bird Island, centre of a guano collection industry, the Dune 7 sand dune, the salt works, the abundant birdlife. The locality of Walvis Bay, Erongo Region, Namibia (-23.11425 14.34746 -22.79425 14.66746), Average elevation: 30 m, Minimum elevation: -1 m, Maximum elevation: 173 m

Walvis Bay, Walvis Bay Urban, Namibia is only 7 meters / 22.97 feet above sea level, so if the sea rises 2 meters nearby areas will be affected. Flooding will be more common, and the population of nearby coastal areas will have to be relocated. The aquifer lithology in most cases comprises fine to medium grained sand, with intercalated clay-rich layers/lenses. Layers of coarser sand and gravels, a few metres thick, are often found at the bottom of the succession, just above bedrock, and are considered to be the most productive part of the aquifer. The mean saturated thickness of the aquifer is 15m. Transmissivity is generally between 150 and 1600 m²/day and storage coefficient between 0.09 and 0.25. The water table is generally between 7 and 25 m depth, and the aquifer is generally unconfined. Boreholes are generally between 22 and 75 m deep.

8.4 Surface and Ground Water Hydrology

Only the border rivers are permanent. The Swakop and Kuiseb rivers rise on the plateau, descend the western escarpment, and die out in the Namib (except in rare flood years, when they reach the sea at Swakopmund and Walvis Bay, respectively). The Fish (Vis) River rises in the Central Plateau and (seasonally) flows south to the Orange. Various lesser rivers rise on the plateau and die out downstream in the Namib or Kalahari Desert. The Walvis Bay area is characterised by a complex and dynamic environment. The landscapes of the Walvis Bay biodiversity areas are a result of river, marine, wind, and man induced processes and feature some of the most interesting geological, soils, hydrological and biological features as well as different land uses. It is further characterised by a rare ecological interaction between a coastal wetland and the desert, under the influence of a very unusual climate dominated by the presence of cold sea currents.

8.5 Landscape characteristics

8.5.1 Biodiversity (Birds, Mammals, Fauna & Flora)

Walvis Bay is blessed with a rich biodiversity which thrives in the scenic Namib Desert dunes and associated gravel plains, the Walvis Bay Lagoon, the ephemeral Kuiseb River Delta and other ecosystems. Biodiversity forms the basis of our tourism sector. Therefore, its preservation is critical to

the sustainable growth of the sector and the entire economy of Walvis Bay. The Walvis Bay area is characterised by a complex and dynamic environment. The landscapes of the Walvis Bay biodiversity areas are a result of river, marine, wind, and man induced processes and feature some of the most interesting geological, soils, hydrological and biological features as well as different land uses. It is further characterised by a rare ecological interaction between a coastal wetland and the desert, under the influence of a very unusual climate dominated by the presence of cold sea currents.

Only 1% of Namibia's shoreline offers a sheltered, shallow area connected to the sea such as is found at Walvis Bay. Here a collection of species can usually be found that either do not occur or occur less plentifully on the open shore. Walvis Bay thus provides a rich habitat for marine fauna and flora and also accommodates the largest harbour along Namibia's coast. It is for these reasons that the city's biodiversity is divided into four main areas:

(1) The Walvis Bay Ramsar Site;
(2) The Kuiseb Delta;
(3) The Dune Belt Area and
(4) The Walvis Bay Coastline and Each of these main areas is further divided into functional zones.

The Dune fields is the area between the middle of the Swakop River in the north, the C14 road to Solitaire in the south, the tarred road in the west and railway line in the east between Walvis Bay and Swakopmund, excluding any approved urban development. Biodiversity description The Dune fields are characterized by a unique biodiversity and its conservation is important in view of Namibia's heritage and sustained tourism potential along the coast. The ability of this area to support a rich and unique biodiversity should not distract from the fundamental fragility of this dune ecosystem which is easily disturbed. Ecologically it is a low energy system because of the lack of water. Perennial plants grow slowly while annual ones can only grow in the years with adequate rain. As a result, a long period of time is required for the vegetation of the area to recover from disturbance.

One of the special attractions of the Namib Desert is the very unusual fauna and flora of the dune ecosystem with its wonderful adaptations to this sandy environment. The common vegetation in the dune belt especially along the road between Walvis Bay and Swakopmund is the cushion like plant, ***Trianthema hereroensis***. This succulent is able to absorb fogwater through its leaves as well as soil moisture by way of its roots. **Trianthema hereroensis** is endemic. Two endemic rodent species occur in the dune sand namely the Golden mole ***(Eremitalpa granti* namibensis)** and Namib dune gerbil ***(Gerbilurus tytonis).*** Damara Terns ***(Sterna balaenarum),*** (near-threatened, near-endemic seabird) also breed in the dune belt area. Various species of lizards and snakes occur in the dune fields. The lizards and snakes in this area have largely adapted to the desert environment and some have become

famous for their behaviour of licking fog moisture off themselves, sand diving, foot-lifting, and sidewinding. The animals responsible for the above-mentioned adaptations are the following: the Palmatogecko (Palmatogecko rangei), the Southern Slipface Lizard (Meroles anchietae), and the Southern Namib Sand Adder (Bitis peringueyi) respectively.

The Namaqua Chameleon (Chamaeleo namaquensis), the Namib Sand Snake (Psammophis leightoni subs. namibensis), the Wedgesnouted Skink (Mabuya acutilabris), the Slender Blind Legless Skink (Typhlosaurus braini), the Wedge Snouted Desert Lizard (Meroles cuneirostris), the Small-scaled Desert Lizard (Meroles microphilodotus) and the Small-legged Burrowing Skink (Typhlosaurus brevipes) found here, also occur on other coastal desert areas of the Namib Desert. Almost all the reptile species on the coast are endemic to Namibia

Gerbillurus tytonis

trianthema hereroensis

Sterna balaenarum

Desert Lizard (Meroles microphilodotus)

Figure 16: *Fauna & Flora found in desert dunes (Walvis Bay townland)*

Artificially created Bird Sanctuary

Behind the project area is an artificially created bird sanctuary for birds (flamingos) breeding area, which was and is created through the depositing of greywaters onto the dry desert dunes to create an artificial wetland. This artificially created wetland has attracted a host of birds that often inhabit the wetland area for breeding in certain seasons. The artificially created wetland or site is situated about 100meters from the proposed truck port project area. The site is most inhabited by the seasonal flamingo birds. The site does not pose any effect or impact to the proposed project and verse versa. The impact can be attributed to the smell from the greywater and the possibility of mosquitoes breeding sites being expected on the site.

Nambaza Investment cc have and will adopt a Convention of Biodiversity strategy (CBD) model, a system approach to achieve both development and conversation, sustainable use and the fair and impartial sharing of the benefits from the utilization of natural resources (Garima & Chandra, 2021). This approach is a goal driven development approach which encourages the incorporation of social, economic and ecological factors. As defined by CBD, ecosystem approach is a strategy for the integrated management of land, water and living resources that promotes their conservation and sustainable use in an equitable way (CBD, 2004). Some of the significant mitigation measure to ensure a balance of the two competing land uses include the following;

- **Vegetative Barriers:** Noise pollution in the sanctuary is mainly generated through the movement of vehicles and heavy traffic on surrounding roads – the Walvis Bay C14 road. Sound barriers like tree plantation can be recommended to mitigate the noise pollution levels here. Moreover, the plantation will also provide food and habitat for birds living in the sanctuary. Also, it will enhance the aesthetic beauty and improve the quality of environment.
- **Use of Insulators:** The Bird sanctuary along the C14 road cannot be relocated, so insulators can be used instead, which can absorb the vibrations. Different types of insulators can be installed to mitigate the vibration levels like porcelain insulator, glass insulator, polymer insulator etc. The different habitat areas in the Bird Sanctuary also depicts the situation and quality of environment for birds. These habitat areas are drastically affected by human interventions. By providing the mitigation measure elaborated above and spatially mapped in study area can help to reduce the impacts, enhance the recreational value of the bird sanctuary and provide safe and healthy habitat areas inside the bird sanctuary. These mitigation strategies as suggested will help in preventing the decline in species counts of flora and fauna and safeguarding the

sanctuary. In addition, pollution testing systems which can monitor pollution levels of the Bird Sanctuary time to time, can be established to regularly check the environmental quality

8.5.2 Agriculture

There is no existing and/or any commercial and/or subsistence agriculture taking place on the project site and/or the surrounding sites to the proposed project area. Most surrounding townland are earmarked for urban industrial development excluding agriculture as a result of the poor saline soils and low water table. The other reason for lack of agriculture development in the area is because most of the Walvis Bay Townland along the C14 Walvis Bay town to Walvis Bay International airport is slowly being transformed into a high business node area for Industrial business and other infrastructure economic activities

8.6 Socio Economic Profile

At local level Walvis Bay has an urban population size of 63 000 (Namibia Statistics Agency, 2023) and the current estimate is around 90 000 to 100 000. Attracted by perceived and real employment opportunities at the coast, several individuals have moved to the area and only 30% of Walvis Bay residents were born in the town. The demand of the fishing industry for workers is heavily dependent on the fishing quotas, which then adds to the fluctuations in population size. The proposed facility will provide employment to people from the area. Skills development and training would also be a benefit to 50 employees. The development may have an influence on further stimulating economic growth of the town and region which may result in more job opportunities.

8.6.1 Benefits and project Socio- economic activities

In the nutshell and on the national level, the overall objectives for entrepreneurial businesses in the country, in line with the National NDP and Vision 2030 objectives, among other are to help attain the national objectives, the overall goal of the National Economic growth & empowerment is to increase economic growth, reduction & eradication of poverty and sustain and increase food security, within the context of Namibia's fragile ecosystem. The proposed Truck Port on the other hand have the following:

- Gives opportunities for a faster and more effective container handling at the port (in line with the Walvis Bay Corridor Group objectives) .
- Reduces capacity problems on access roads to and from the port.
- Clusters companies and bodies dealing with goods transportation.
- Supports the truck port users with added value services, job creation, etc.

- Gives extra space for development of other activities in urban harbour areas such as residential and commercial areas, etc.
- Increases the catchment area of the port.
- Contributes to a modal shift from road to combined rail and sea.
- Reduces environmental conflicts by segregating different functions.

A long-term mutual business agreement between the truck port developers (Nambaza Investment Cc & The Walvis Bay Municipality) and Walvis Bay community will be developed. Significant community empowerment such as employment creation and assistance for social donations will also be offered to the community.

9. DESCRIPTION OF THE PROJECT

9.1 Site locality

The development will be situated on a major national road, the C14 highway between Walvis Bay Urban and Walvis Bay International Airport. The site is located west of the C14 highway – about 3km South of Dune's Mall on the following GPS position 22°58'13.0"S 14°33'01.9"E. The site has good access from the national distributor highway (C14) – and fast connectivity with the port of Walvis Bay (~ 10 minutes / 5km). Figure 17 below illustrates the location of the proposed WITS development in context to the C14 highway and the town of Walvis Bay

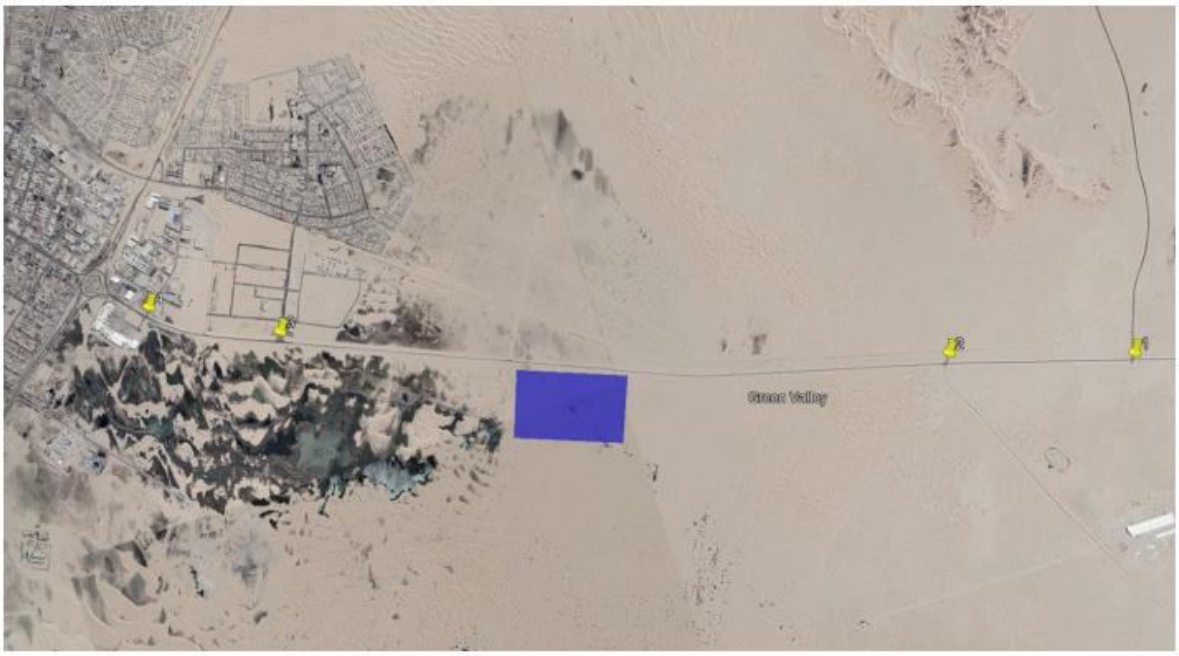
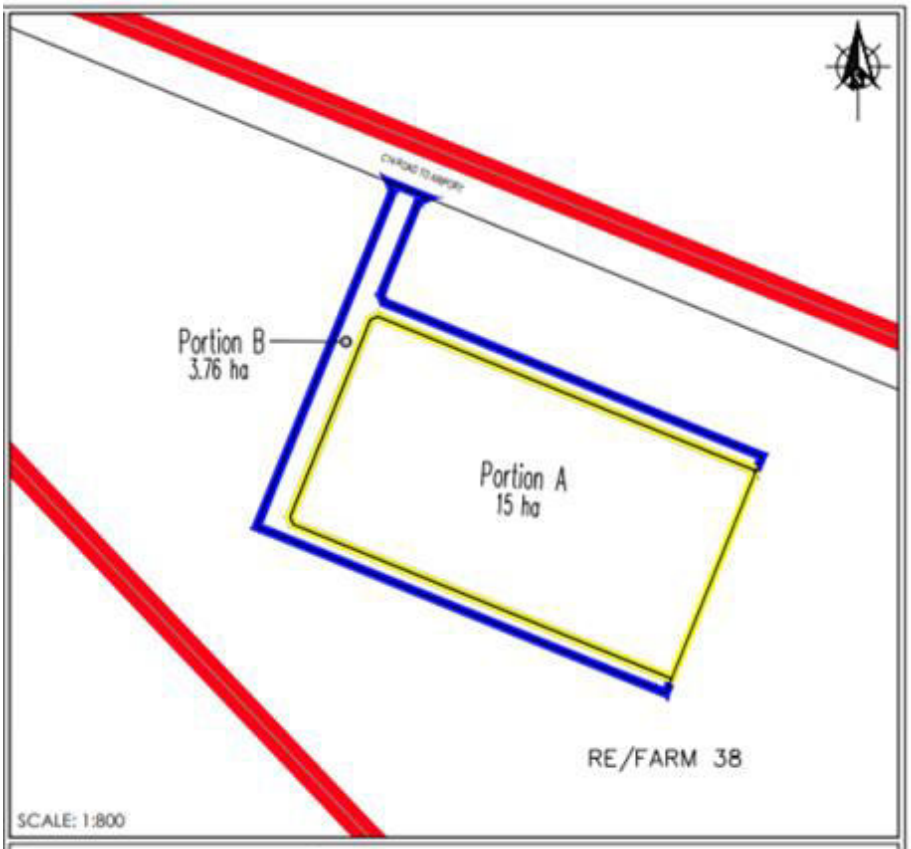


Figure 17: *Project locality area*

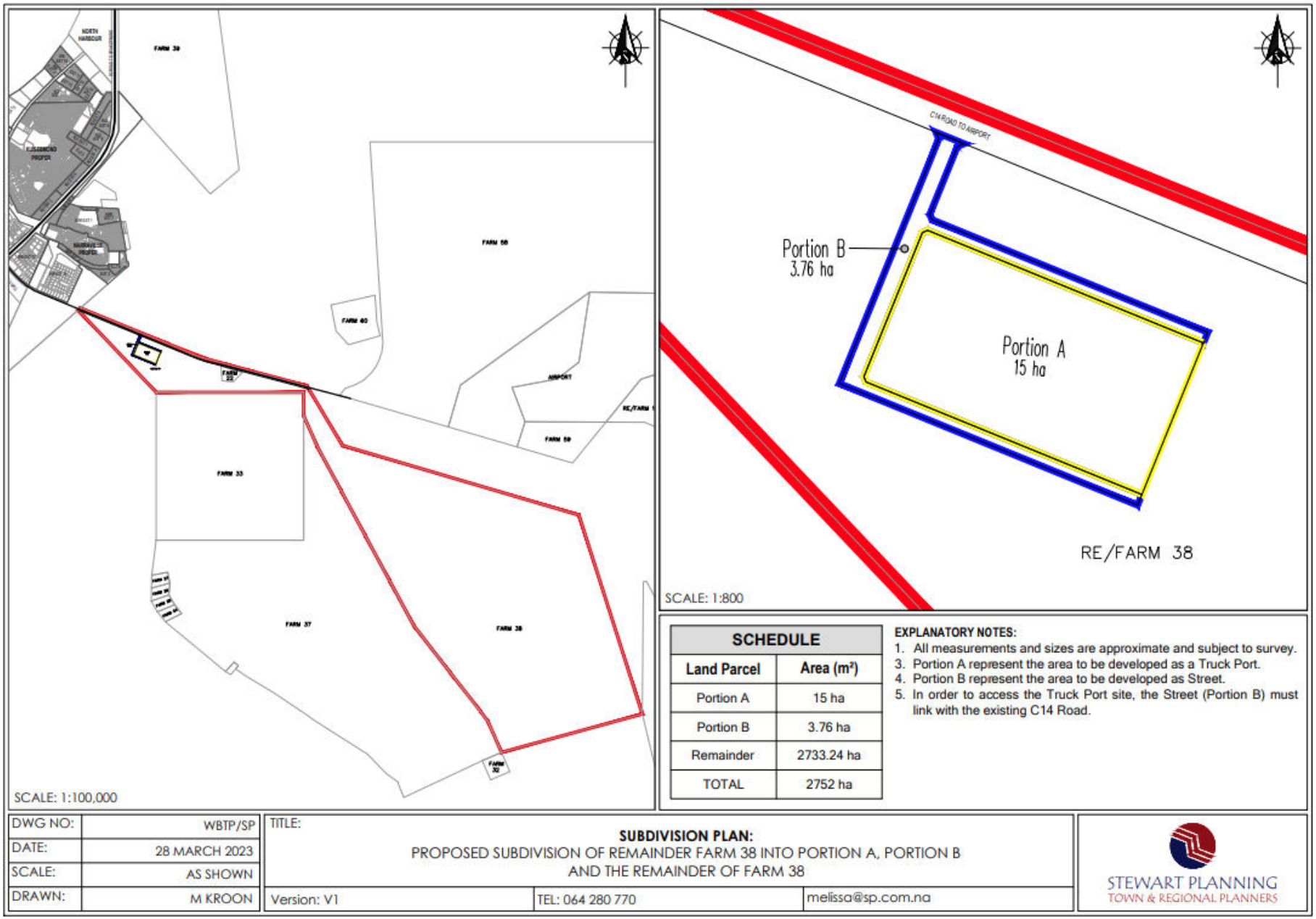
9.2 Subdivision of portion

Before the commencement of construction of the proposed development, legal statutory process was undertaken and/or were followed as a required by the Urban& Regional planning Act, act 5 of 2018 to ensure the proper subdivision of the portion and the street (access street) for 2 of farm 38. The subdivision with a draft cadastral measure were prepared by the town planner and drafted by a registered land surveyor as shown on (page 42) to ensure proper and accurate demarcation of 2 of farm 38, in extent of 15 hectares inclusive of the street marked "A" in extent of 3.76 hectares. The Roads Authority upon verification of the site will be required to issue a letter of approval for the creation of the entry and exit point of the proposed truck port marked "B". The subdivision plan as attached shows the proposed truck port subdivision together with other future subdivisions shows the entry & exit point marked "B" of proposed truck port. Further below is the draft survey diagram of portion B, a portion earmarked for truck port development. The application for subdivision was and/or will be lodged with the Ministry of Urban and Rural Development who shall discuss and consider the proposed subdivision for Truck port being carried-out by a Registered Town Planner Stewart Planning Consultancy based in Walvis Bay.



SCHEDULE	
Land Parcel	Area (m²)
Portion A	15 ha
Portion B	3.76 ha
Remainder	2733.24 ha
TOTAL	2752 ha

EXPLANATORY NOTES:
1. All measurements and sizes are approximate and subject to survey.
3. Portion A represent the area to be developed as a Truck Port.
4. Portion B represent the area to be developed as Street.
5. In order to access the Truck Port site, the Street (Portion B) must link with the existing C14 Road.



SCHEDULE	
Land Parcel	**Area (m²)**
Portion A	15 ha
Portion B	3.76 ha
Remainder	2733.24 ha
TOTAL	2752 ha

EXPLANATORY NOTES:

1. All measurements and sizes are approximate and subject to survey.
3. Portion A represent the area to be developed as a Truck Port.
4. Portion B represent the area to be developed as Street.
5. In order to access the Truck Port site, the Street (Portion B) must link with the existing C14 Road.

DWG NO:	WBTP/SP
DATE:	28 MARCH 2023
SCALE:	AS SHOWN
DRAWN:	M KROON

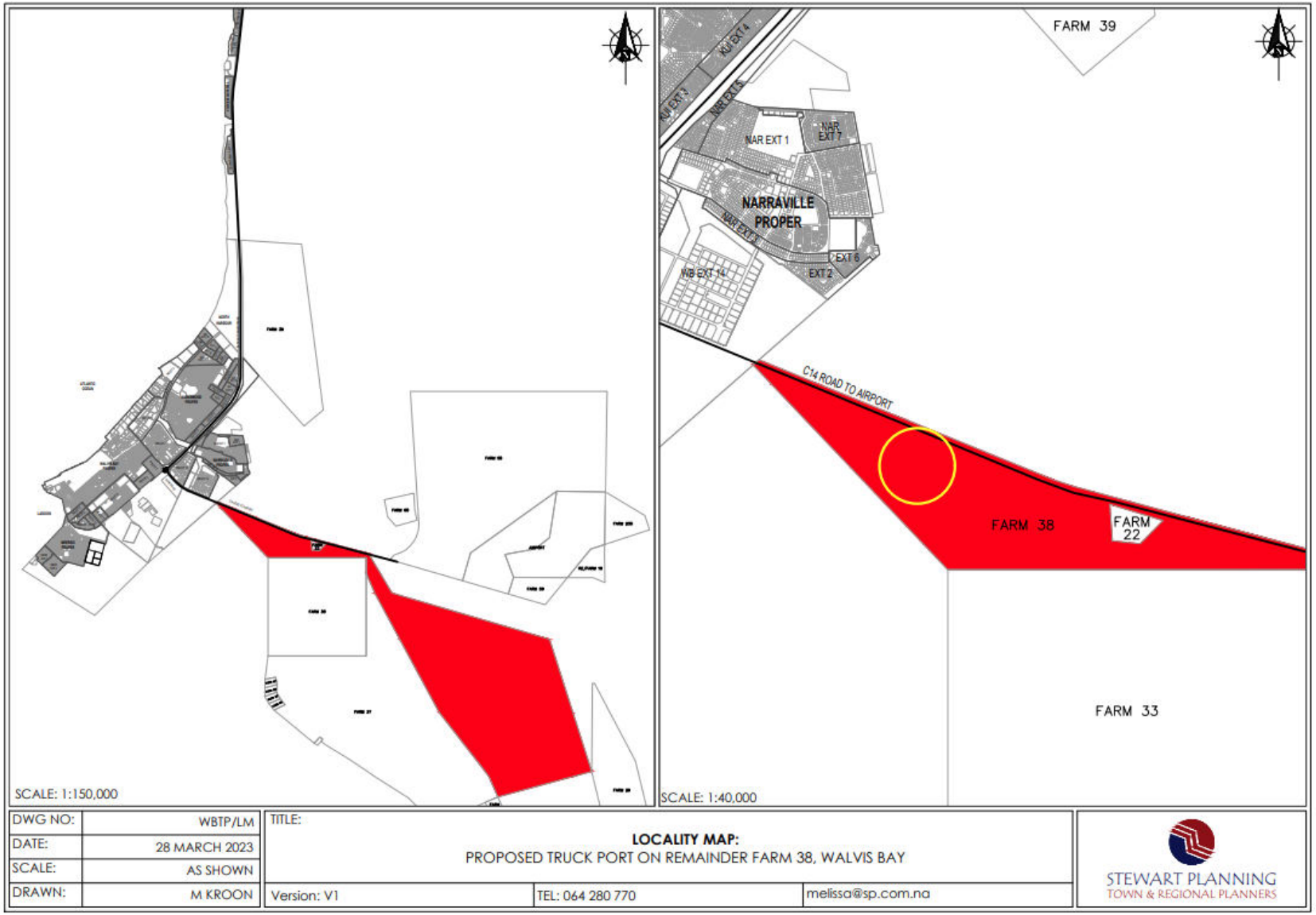
TITLE:

SUBDIVISION PLAN:
PROPOSED SUBDIVISION OF REMAINDER FARM 38 INTO PORTION A, PORTION B AND THE REMAINDER OF FARM 38

Version: V1

TEL: 064 280 770
melissa@sp.com.na

STEWART PLANNING
TOWN & REGIONAL PLANNERS



DWG NO:	WBTP/LM
DATE:	28 MARCH 2023
SCALE:	AS SHOWN
DRAWN:	M KROON

TITLE:

LOCALITY MAP:
PROPOSED TRUCK PORT ON REMAINDER FARM 38, WALVIS BAY

Version: V1 | TEL: 064 280 770 | melissa@sp.com.na

STEWART PLANNING
TOWN & REGIONAL PLANNERS

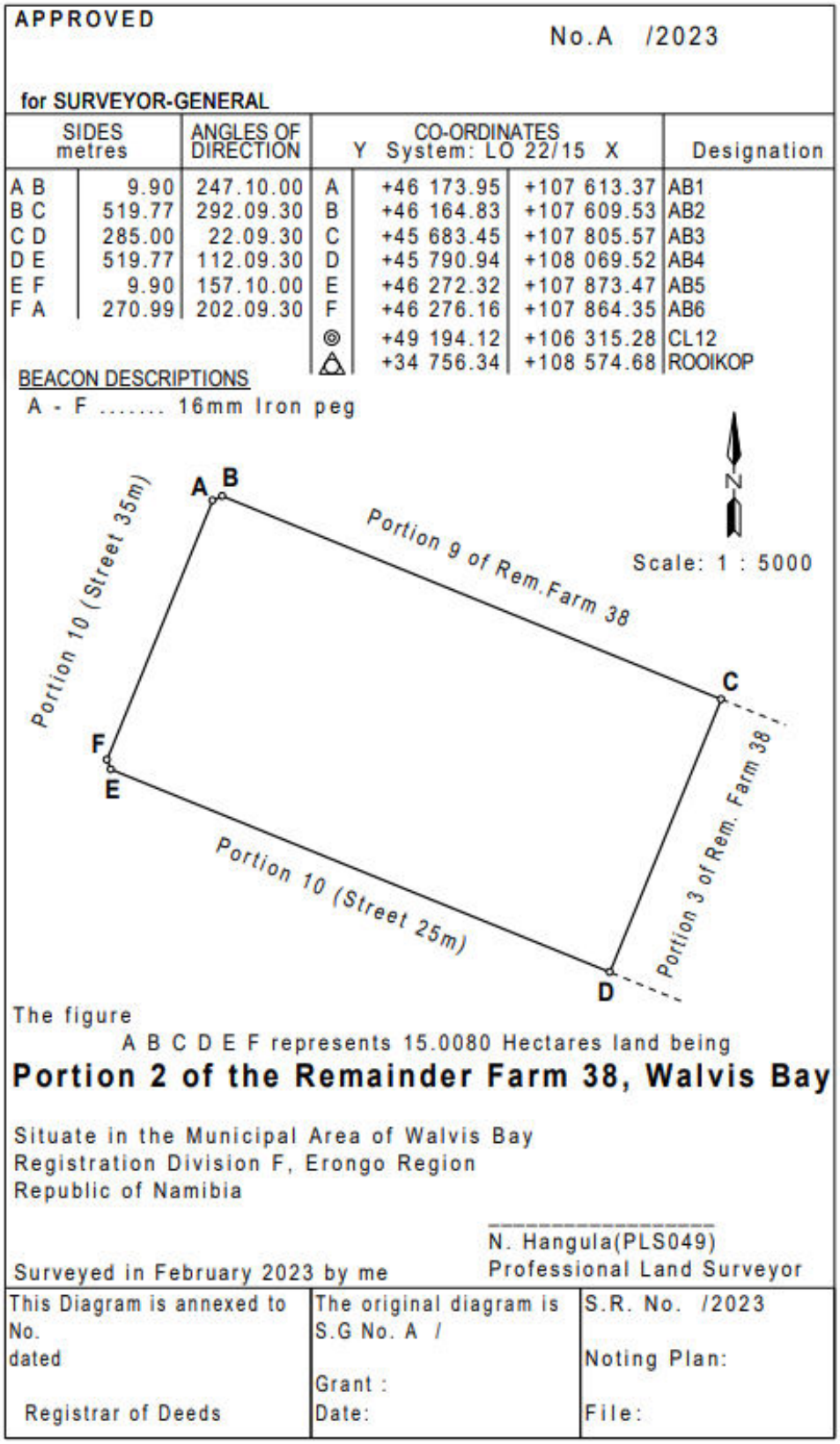


Figure 18: *x3 Subdivision maps with draft survey diagram*

9.3 Construction and Operational Phases

The 15 hectares of land allocated for this envisaged truck port project is at the moment a barren land with no vegetation cover. The site is predominately characterized by desert sand dunes. The portion does not and/or will not require clearing as it is an open desert dune area associated only with small desert plant species as indicated on page 35.

Based on the proposal, the investor (Nambaza Investment cc) plans on starting with the construction as soon as the Walvis Bay Municipality gives approval for the truck port development to commence. This will be only be implemented once the required statutory documents such as the Environmental Clearance Certificate is acquired relevant authority of Ministry of Environment, Forestry & Tourism as per the Environmental Management Act, Act 7 of 2007.

Nambaza Investment cc plans on developing an environmentally friendly business which will comprise land uses as prescribed on (*Page 16*) of this document. ***NB:*** *Priority will be made to source the use of locally produced building material such as the poles, cement, local made bricks and local made corrugated iron sheets, which will be used to build the truck port (most of the material required for construction shall be procured locally in Walvis Bay retail shops) as a way of supporting and promoting local economic growth.*

Figure 19: *Illustrative envisaged design of the proposed Walvis Bay truck port development (also see page 27 & 28)*

Table 4: Project development activities and actions required

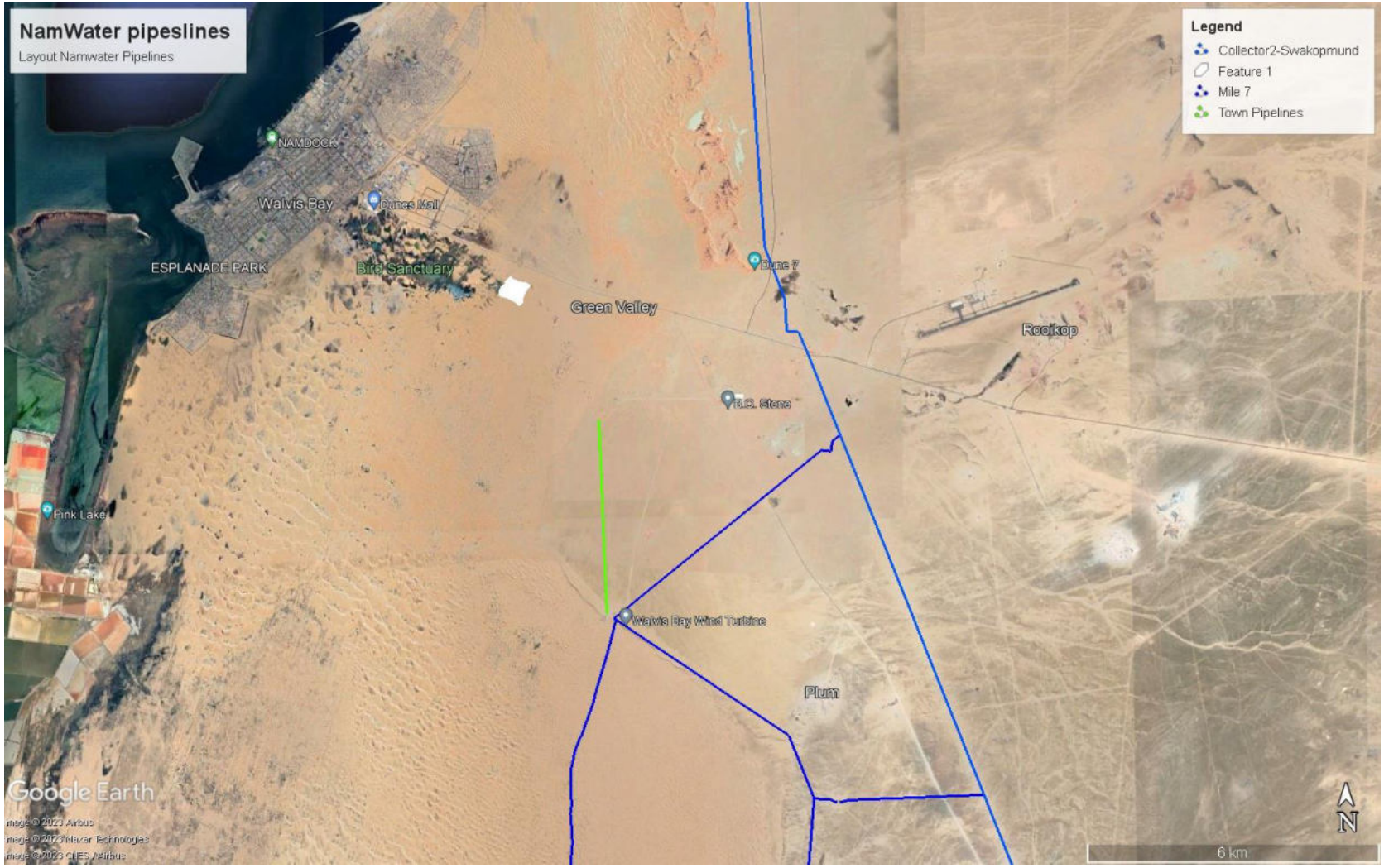
Construction Phase Activities	*The setting up of temporal construct camp for construction workers, the setting up of defined project site boundary and fencing therefore, the setting up of mobile portable toilets, portable showers and temporal makeshift sleeping rooms. The levelling of the project site with bulldozer*
	Upon completion of the preparation of the site, plans to connect a water pipeline connecting from existing water sources from Namwater line (connected from Walvis Bay to Walvis Bay international airport) will be constructed onsite for usage by construction workers. The Nam-water pipeline runs alongside the C14 Walvis Bay to Walvis Bay international airport road
	In addition to that a power supply will also be connected from the existing Nampower / ErongoRed substation situated a few meters from the project site. the electrical substation is situated along the C14 highway road. The installed during the construction phase, where power will be installed through connection to the existing rural electrification transformer from ERONGORED. Nambaza Investment cc is expected to spend close to N$ 70 000.00 for connection of power to the existing transformers located nearby
	The construction of the proposed truck port development and/or the construction of the Truck port infrastructure buildings will have other associated infrastructures that are essential for operation of the truck port. These will include service station, *A NAMCOR branded fuel station and convenient store* *• Tyre repair and truck repair services* *• Accommodation and ablution facilities & Parking spaces for 111 trucks* *• Wellness Clinic or doctor consulting room* *• Cargo Warehouses and other supporting facilities and a total of 50 workers (skilled and unskilled) will be employed during the construction and operation phase of the project.*
	Digging of trenches and laying of drain sewerage pipelines will be conducted to ensure that the development's sewer system is connected to the existing bulk sewer manholes alongside the C14 road. The building plans will be submitted for approval before connections are established.

Operational activities	*During the operation phase of the truck port development project a total of 50 skilled and semi-skilled workers will be employed at the project. this will be inclusive and represented by all genders (male and female)*
	A standard approved Septic tank drainage connection will be constructed on the development's project site, to absorb and store sewerage liquid wastes. The Walvis Bay Municipality will be responsible for drawing and disposing the liquid wastes from the development site to the designated sewage ponds. Draft building plans shall be submitted to Municipality of Walvis Bay's building control for approval before construction starts
	The solid wastes that will be generated from the operations of the truck port will be disposed into skip containers and wheel bins or rubbish bins to be placed in different areas of the truck port vicinity, transported and disposed to the nearest and designated Walvis Bay dumping site which is situated +-9 kilometres south west of the project area. The investor (Nambaza Investment cc) will take responsibility to transport the solid wastes to the dumping site as the dumping site to serve costs.

10. ASSOCIATED INFRASTRUCTURE

10.1 Water

Water supply will be connected from the adjoining Nam-Water pipeline (marked Blue) from the Kuiseb dam/delta reservoir to the project site. The Walvis Bay Municipality shall be responsible to connect from the existing Nam-water pipeline to the proposed project area for user and utility. Figure 20 below shows the connection point marked as "Green-line" the water pipe is situated approximately 700 meters to 1 kilometre to the project site, The water is suitable for human consumption. Walvis bay municipality shall recreate a connection point from the reservoir pipeline to supply the project area. Water quantity required for development cannot be determined before hand as the amount of water usage is dependant on the user fraction of the entire development and can only be measured through measuring instruments to be installed by Council.



NB: Blue line (Nam-water pipe) & Greenline (Municipal pipeline from the reservoir)

Figure 20: *Existing Nam-water water pipeline from the Kuiseb water reservoir*

10.2 Electrical Services

The proposed truck port project development is to be located close to other envisaged future potential business developments such as General Industrial, special and mixed-use developments; hence power supply shall be connected through the same power line which is under the ownership of Nam-power and Erongored, hence the investor plans to obtain his power supply by connecting through existing power substation which is situated about 80 meters from the proposed site area. The main source of this power connection is connected to the main power grid situated in Walvis Bay. According to Mbako (2023) of Erongored, the existing substation operates as intake station with one 150kVA local Transformer installed. As a result, there is no room for expansion of this substation, it is therefore recommended that allowance for a substation is made on Portion 2 of remainder of Farm 38. ErongoRED standard substation are 12mx10m , and shall be rezoned and transferred to ErongoRED to enable energizing.

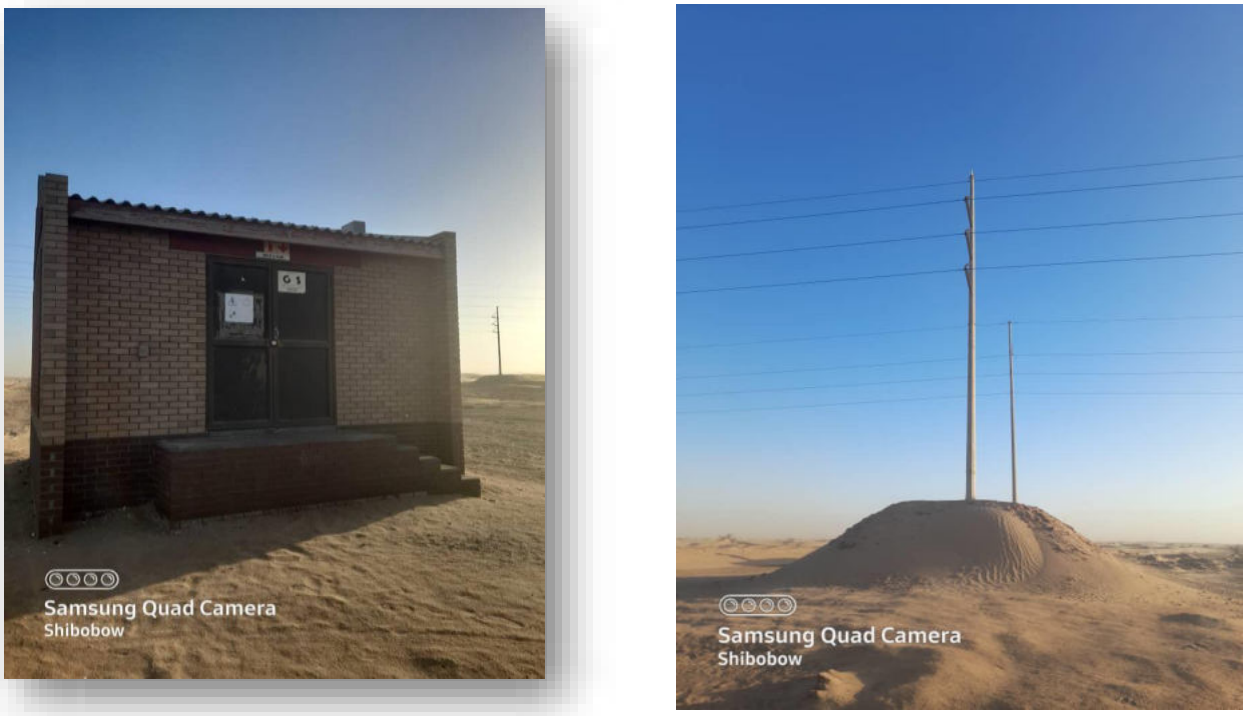


Figure 21: *ErongoRed substation near project area (Portion 2 of remainder of farm 38)*

There are also fibre communication lines that exist in the project area. These fibre cable will be used to install communication lines to the project development with the approval and consent from the Namibian Telecommunication networks. All the services are and will be running through the public open space marked as “servitude” where electrical poles (as depicted below) are erected. This land cannot be developed as it reserved for public use and for utility installation, maintenance and upgrading

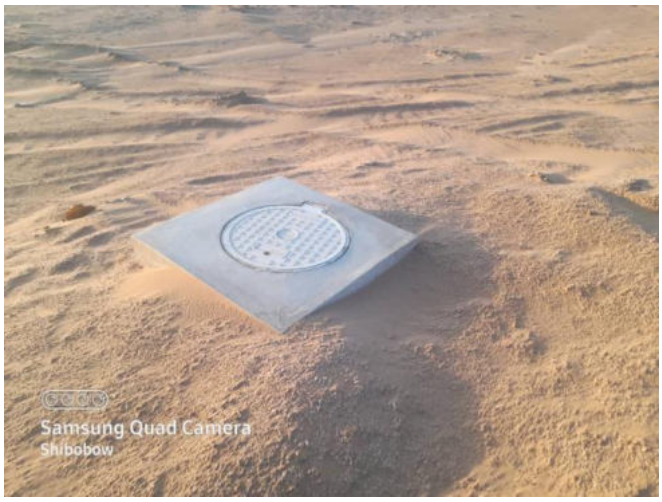


Figure 22: *Existing Telecommunication lines*

10.3 Sewage Treatment and Disposal

The Truck port development building structures will be connected to a septic tank sewerage system which shall be constructed as approved by the department of a building Control at Walvis Bay Municipality. The proposed project site has no existing gravitation sewer system, hence the need to construct a new septic tank system to support and absorb the project liquid wastes.

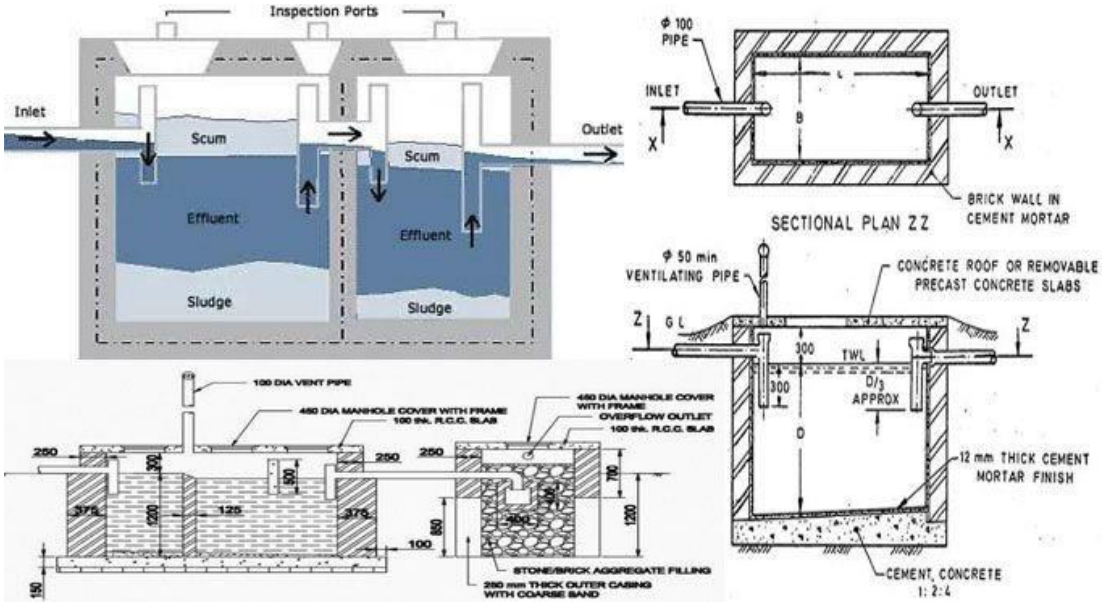


Figure 23: *Design layout of the septic tank to be constructed*

10.4 Solid Waste Disposal

All solid wastes to be generated during the construction and operational phase of development will first be collected in the wheel bins, dustbin and skip container waste collectors (such as building rubbles, garden refuse and waste materials). Then such wastes will then be transported and disposed to the Walvis Bay designated dumping site. The investor Nambaza Investment cc will take the full responsibility to ensure the management & facilitation of solid waste deposing is carryout it at per the approved policies and municipal bylaws. The dumping site is located some +-9 kilometres from the project site area. Furthermore, there will be sufficient portable 240 Litre wheel bins that will be placed within the premises where waste material such as plastics and building rubbles will be disposed. Once the wheel bins are full, the truckport operate will ensure the disposition of the waste material to the Walvis Bay dumping site. There will be four (4) skip containers on the premises where heavy building rubbles will be disposed. It will be the truckport operator's responsibility to ensure that when the skip containers are full such material are disposed at the dumping site.

Figure 24: *Skip container for refuse rubbles 240 Litre & Wheel bins*

11. STAKEHOLDER AND COMMUNITY CONSULTATIONS

Public participation forms an important component of the environmental Assessment process. It is defined by the Environmental Management Act (2007), as a 'process in which potential interested and affected parties' area given an opportunity to comment on, or raise issues relevant to specific matters. The objectives of the stakeholder consultation process are to disseminate information on the project and its

expected impact, long-term as well as short-term, among primary and secondary stakeholders and to gather information on relevant issues so that the feedback received could be used to address these issues at early stages of project design. Another important objective was to determine the extent of the concerns amongst the community, to address these in the project implementation and to suggest appropriate mitigation measures. The feedback received has been used to address these issues at early stages of project design

Identification of Stakeholders

The stakeholders to be consulted for the Project will include local affected persons, local authorities, educational institutions, local community and other groups with an interest in the area around the Project. Consultations took place between 15 to 30th April 2023.

Consultation with Stakeholders

Due to the extent and size of the proposed development, public participation notices were placed in around Walvis Bay town & Walvis Bay Airport, on the Walvis Bay municipality notice board and some adverts were placed at the project site area and in the newspapers circulating nationwide. The advert was placed in the Confidente & New Era newspaper on 08th and 17h May 2023 respectively. A random list of Interested & affected parties & stakeholder was identified based on the relevance & impact of the stakeholders to the proposed development. Communication with stakeholders about the proposed truck port development was facilitated through the above stated methods:

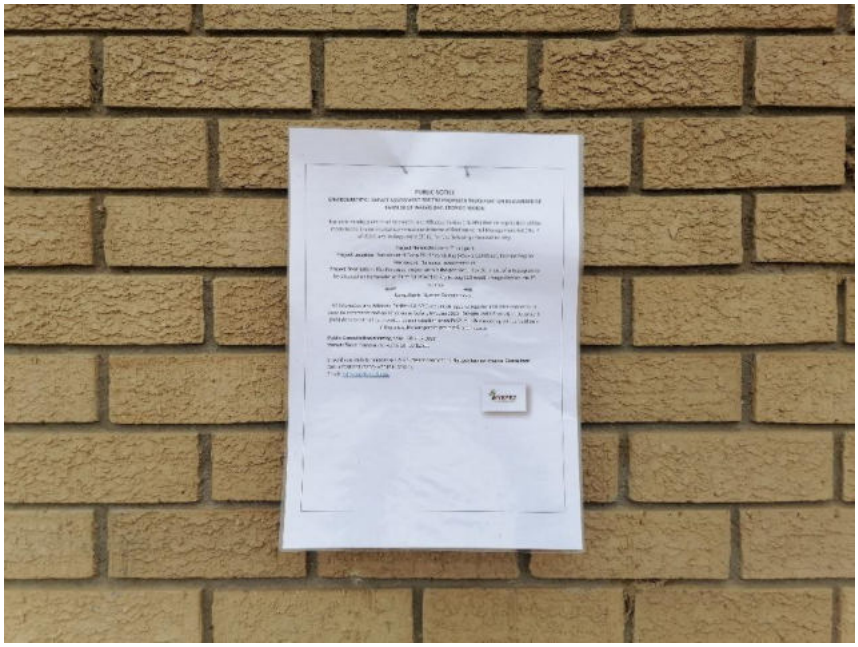
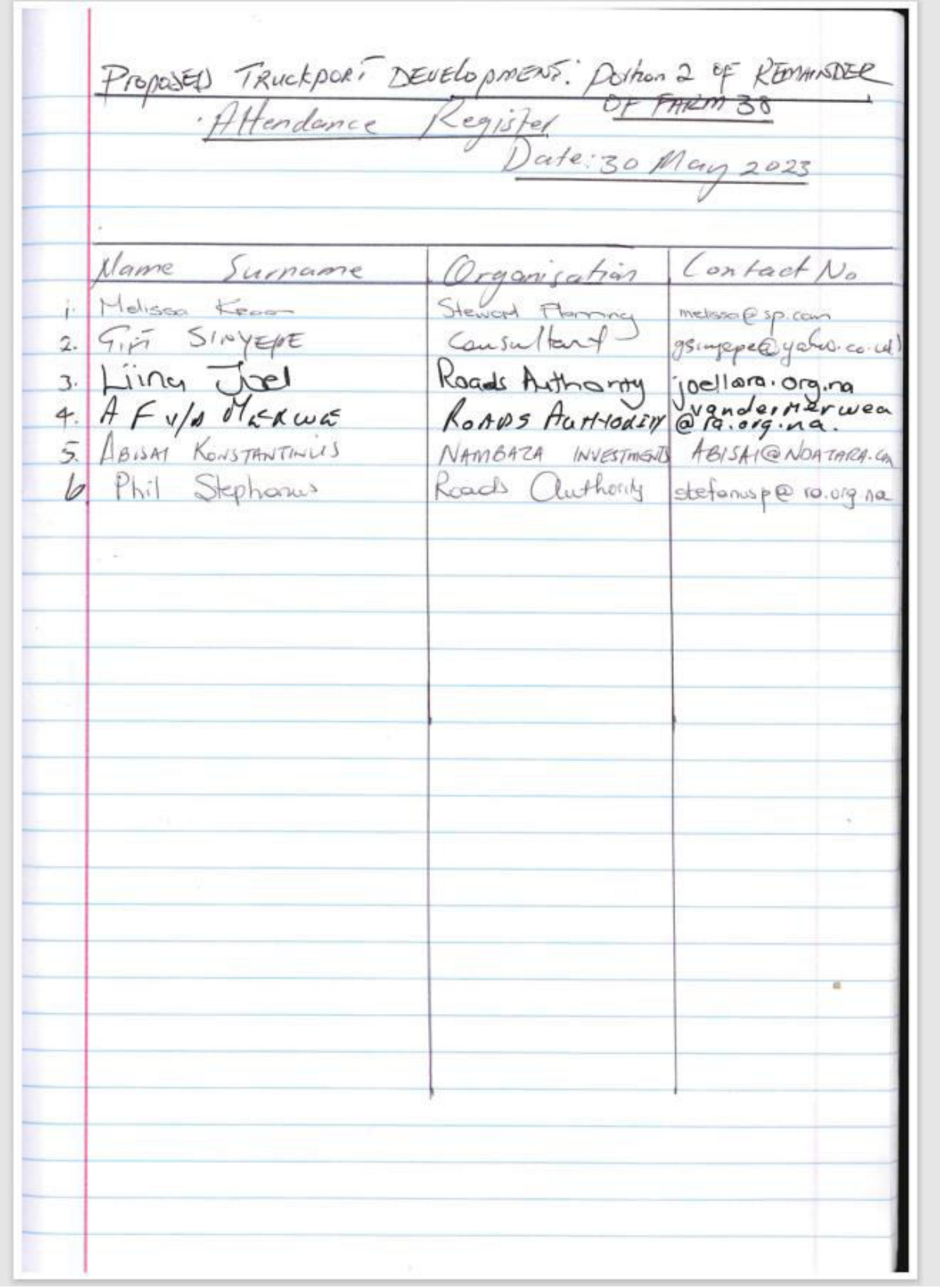


Figure 25: *Advert notices placed on-site*

A public consultative meeting was scheduled to take place on the 30th May 2023 where different parties, organisation, interested & affected parties, stakeholders, local communities and Walvis Bay municipality were invited to EIA public participation meeting to share, inform, discuss issues, concerns and matters surrounding the proposed truck port development. There were about Six (6) stakeholders that attend the public meeting. The following key stakeholders were also invited to the public consultation meeting *(see Letters of invitation to I & Aps and email sent):* Local Authority (Walvis Bay Municipality)**, Nambaza Investment cc (Proponents), Walvis Bay Local Authority, community / Walvis Bay residents , Ministry of Land Reform & Walvis Bay Airport company, Ministry of Environment, Forest & Tourism, Ministry of Trade & Industry, Erongo Regional Council, Roads Authority & Nam-Water, Ministry of Fisheries & Marine Resources**

Figure 26: *Public Consultative meeting; Walvis Town Hall: Date: 30. 05.23*



Proposed Truckport Development: Portion 2 of Remainder of Farm 38

Attendance Register

Date: 30 May 2023

	Name Surname	Organisation	Contact No
1.	Melissa Kroon	Steward Planning	melissa@sp.com
2.	Gift Simyepe	Consultant	gsimyepe@yahoo.co.uk
3.	Liina Joel	Roads Authority	joel@ra.org.na
4.	A F v/d Merwe	Roads Authority	vander.merwe@ra.org.na
5.	Abisai Konstantinus	Namibia Investments	ABISAI@NDATARA.CA
6.	Phil Stephanus	Roads Authority	stefanusp@ra.org.na

Figure 27: *Attendance register*

A summary of environmental issues and concerns that were raised by the interested and affected parties during the meeting are listed below. The purpose of presenting these issues is simply to:

- Ensure transparency regarding the concerns that have been expressed;
- Ensure that all issues raised are properly addressed in the EIA, ESMP and mitigation measures proposed.

Issues dominated the discussions range from:

- Employment Creation
- Deforestation and ecosystem impacts
- Surface & Groundwater pollution
- Noise pollution
- Traffic increase or flow
- Economic growth

12. MAJOR IMPACTS IDENTIFIED

12.1 Employment creation

Some of the socio-economic advantages that are presumed to accompany the establishment of the truckport development is the creation of job opportunities that will be generated from the development. It is envisaged that the proposed truckport will create approximately +-50 permanent jobs for the local community (for both 50 skilled and unskilled to be employed). Additionally, some causal labourers will be hired on a contractual basis especially during the construction phase of the development. It is a vital objective to support local skills and uplifting the living standard and livelihood of Namibian citizens. This impact is considered positive for the development of Walvis Bay town.

12.2 Deforestation and ecosystem impacts

As explained on the on page 33, the proposed project area for development of the truck port is a desert area, uncovered by vegetation. The site is an open desert barren land. Further given the bad soil condition and soil climate the habitat of flora and fauna is known to have fragmented and degraded. As a result, there is no flora and fauna on site. The proposed site lies within an already disturbed urban area. Thus, no immediate threat to biodiversity in the area can be expected, however, uncontrolled pollution may and can cause damage to any species in the area surrounding the site.

12.3 Groundwater Surface Water and Soil contamination

Only the border rivers are permanent. The Swakop and Kuiseb rivers rise on the plateau, descend the western escarpment, and die out in the Namib (except in rare flood years, when they reach the sea at Swakopmund and Walvis Bay, respectively). The Fish (Vis) River rises in the Central Plateau and (seasonally) flows south to the Orange. Various lesser rivers rise on the plateau and die out downstream in the Namib or Kalahari Desert. Public water supply to Walvis Bay and the surrounding development is provided by Nam-Water from the Nam-Water Kuiseb Water Supply Scheme. Groundwater is not a source of potable water and as such public water supply should not be at risk because of activities at the facility.

12.4 Noise pollution

The development of a Truck Port will have a slight possibility of noise pollution emanating from the transportation trucks that will be arriving and boarding from this service project. The slight noise pollution will not have any detrimental effect to any land use around the area as the closest land use is the General Businesses and general industrial operational projects. The proposed truck port development is intended to provide potential clients with quality, viable and best clearing and accommodation services, where potential hindering nuisance activities such as noise pollution will be minimised. The truckport will operate in line with the truck port development Policies and regulation of Namibia.

12.5 Traffic increase or flow

Development of any truck port facility is normally associated with increased traffic flow and may led to congestion. Fortunately, the proponent of the proposed truck port has consulted with the relevant parties responsible for transport corridor planning and construction for possible mitigation measures. An approval was acquired from the Roads Authority (RA) for the establishment of a re-route entrance and exit of the volume of trucks accessing the truck-port. This will serve a deter to minimise and prevent traffic congestion on the C14 main road to the international airport. Hence with the proposed alternative access to the project site, this impact therefore poses no risk as mitigation are in place.

12.6 Economic growth

It is projected that the establishment of this proposed truck port will promote economic growth through the following; Efficiency in cargo handling will increase and can exceed that of only using sea and road, prevent and avoid heavy congestion at seaports, will Increase capacity, will achieve consolidation of import and distribution functions in one location as well as creating more space available for warehousing and distribution facilities away from seaports.

Table 3: Sustainability / Potential Appraisal

12.7 Sustainability / Potential Appraisal			
Impact on Ecological & Socio Economic	**Level of Impact**		**Comments**
	Positive	**Negative**	
Creation of Employment	High	None	15 unskilled local workers during the construction phase of the project and an estimate of ± 50 permanent skilled & semi-skilled local workers during the operational phase of the project
Deforestation and ecosystem impacts	N/A	None	there is no flora and fauna on site. The proposed site lies within an already disturbed urban area. Thus, no immediate threat to biodiversity in the area can be expected, however, uncontrolled pollution may and can cause damage to any species in the area surrounding the site.
Groundwater Surface Water and Soil contamination	High	None	The water will be extracted from the Nam water pipeline situated about 10 meters from the proposed site.
Noise pollution	N/A	None	In consultation with the traffic policies and applicable laws, noise pollution will be addressed applying by managing traffic systems and conditions like reducing speed limits, controlling traffic flow and restricting use of heavy vehicles on some roads
Traffic increase or flow	N/A	None	An approval was acquired from the Roads Authority (RA) for the establishment of a re-route entrance and exit of the volume of trucks

			accessing the truck-port. this impact therefore poses no risk as mitigation are in place
Economic growth	High	None	Increase in the Country Gross domestic products and revenue collection

Key Consideration Area

- Contribute to local economy & National economy
- Employment Creation
- Local level economic empowerment

13. IMPACT ASSESSMENT AND MITIGATION

13.1 Environmental Impact Associated with the Project

This section discusses the potential environmental impacts of the proposed Project and identifies mitigation measures to minimize the impacts in the design, construction and operational phases. Environmental analysis covered potential direct, indirect, cumulative, and induced impacts but primarily focusing on the physical impacts within and around the truck port operational areas.

13.1.1 DESIGN / PRE-CONSTRUCTION PHASE

1. Detailed Design

The proposed Truck Port development will follow design and built modality. The contractor hired will be responsible for detailed design and subsequent construction of the truckport facilities. Detail design will refer and comply with Namibian Transport Rules for structural analysis and design of DP.

Further, the contractor will hire Environmental Specialist (ES) who will carry out the review and update the existing EMP during detail design. The project design will incorporate the IEE study recommendations. EMP will be made integral part of the bidding and contract document. Environmental Mitigation measures will be itemized and put in the Bill of Quantities (BOQ).

2. Vegetation clearing

No part of the proposed project area has vegetation, the portion is a barren desert area with sand dunes only. Thus, any vegetation clearing or removal will be done with approval from Department of Forest.

13.1.2 CONSTRUCTION PHASE

The source of the construction impacts from the truck port will include (i) excavation of building foundations; (ii) construction truck port buildings, (iii) construction of the internal roads and parking areas; (iv) construction of perimeter walls and security fencing (v) construction of internal road side drainage (viii) installing landscaping road signage and accessories (viii) construction of the buildings and security apparatus throughout the site. The waste disposal issues for the works should be manageable as there will be no major excavation necessary.

1. Occupational Health and Safety

Worker occupational health and safety is generally governed Employment and Labour Act. Construction works will generally result in accidents and injuries or even demise of the workers if no health and safety measures are followed. General Rules and Regulations on Occupational Health and Safety will be applied for occupation safety.

Mitigation measures to be implemented by contractors to ensure health and safety of workers are as follows:

a) The contractor will conduct of training (assisted by PIU) for all workers on safety and environmental hygiene at no cost to the employees. The contractor will instruct workers in health and safety matters as required by law and by good engineering practice and provide first aid facilities.

b) The contractors will instruct and induct all workers in health and safety matters (induction course) including construction camp rules and site agents/foremen will follow up with toolbox talks on a weekly basis. Workforce training for all workers starting on site will include safety and environmental hygiene.

c) Fencing on all areas of excavation greater than 1m deep and sides of temporary works shall be observed.

d) Workers shall be provided with appropriate personnel safety equipment such as safety boots, helmets, gloves, protective clothes, dust mask, goggles, and ear protection at no cost to the workers.

e) Reversing signals (visual and audible) shall be installed on all construction vehicles and plant.

f) Contractor will at all-time keep the first aid kit at the construction sites.

g) Contractor will be responsible for evacuation injured person to the nearest medical center and bear all the medical expenses

2. Community Health and Safety

Public safety, particularly of pedestrians and children can be threatened by the excavation of the trenches for side drain construction. Since construction site is alongside the C14 highway, it will be guarded on all sides by security personnel. Construction activities will be timed and provision for safe passage of school children and elderlies will be made. excavated trenches/ditches and freshly cut steep side slopes will be clearly marked and fenced for the safety of passers-by and workers alike. Project or construction vehicles will be briefed on speed limit within sensitive areas such as schools, commercial and residential areas. In event of accidents, the contractor will be responsible for immediate evacuation of injured person to the nearest medical centre. The contractor shall bear medical and other expenses of the injured person.

3. General Construction Waste Management

Uncontrolled waste disposal will contaminate soil and water bodies, thereby harming the environment. Mitigation measures will seek to reduce, recycle and reuse waste as far as practicable. The contractors will ensure implementation of following measures.

a) In principle, the waste generation will be minimized at source.

b) Waste products will be segregated, recycled and reused whenever possible.

c) Recyclable waste will be sold to the scrap dealers.

d) Organic waste such as plant materials will be composted

e) Residual non-hazardous waste will be disposed of in the municipal landfill.

f) Construction/workers' camps will be provided with sufficient refuse bins.

g) Burning of construction and domestic wastes will be prohibited

h) Disposal of solid wastes into flood ways, wetland, rivers, other watercourses, farmland, forest and associated places of worship or other culturally sensitive areas or areas where a livelihood is derived canals, agricultural fields and public areas will be prohibited.

4. Hazardous materials and hazardous waste disposal

Use of hazardous substances including oils and lubricants can cause significant impacts if uncontrolled or if waste is not disposed correctly. Hazardous waste disposed directly into drainage system can poison water body and affect downstream aquatic life. Mitigation measures will seek to control access to and the use of hazardous substances including chemicals, oils and lubricants and control waste disposal. Contractor will carry out following measures to minimize the impacts:

i) Hazardous chemicals, oil and lubricants waste will be safely stored. Secondary containment around fuel storage area will be ensured.

ii) Hydrocarbon, toxic material and explosives (if required) will be stored in adequately protected sites as per the Explosive and Hazardous Rules of RGOB to prevent soil and water contamination.

iii) Equipment/vehicle maintenance and refuelling areas will be confined to areas in construction sites designed to contain spilled lubricants and fuels. Such areas will be provided with drainage leading to an oil-water separator that will be regularly skimmed of oil and maintained to ensure efficiency.

iv) Fuel and other hazardous substances will be stored in areas provided with roof, impervious flooring and bund/containment wall to protect these from the elements and to readily contain spilled fuel/lubricant.

v) Hazardous wastes (oil, used batteries, fuel drums) will be segregated, labelled and safely stored. The spent oil and batteries will be sold to recycling dealers.

vi) Hazardous materials will be stored away from water bodies and above flood level.

vii) Clean-up operation using readily available absorbent such as sawdust will be carried out immediately during accidental spillage of hazardous waste

viii) All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations complying with all the applicable statutory stipulation.

5. Drainage and hydrology

There are no river streams in the project area thus no rivers or water source or water bodies will be directly affected by proposed truckport construction activities. However, there will be an induced impact on the aquatic life, since the storm water carrying silt and other waste will ultimately join the ground. During construction, the contractor will ensure the proper disposal of spoil and other waste. Hazardous waste such as oil and lubricants will be properly stored and sent for recycling. Solid municipal waste will be disposed-off in a municipal landfill.

6. Traffic Management

Construction activities are likely to cause hindrance in local traffic flow if not properly planned and executed. Contractor in consultation with PIU; local authorities (such as the regional council and local communities will come up with traffic management during construction. Work hours and traffic windows

will be decided and implemented accordingly. Traffic flow during the rush hours (school and office opening and closing time) will be kept open.

7. Sanitation and Disease Vectors

Potential sanitation and impacts from disease need to be controlled by maintaining hygienic conditions in the Truckport area throughout the operational phase as well during construction by implementing appropriate social and health programs for the Project. Truck Port will ensure that improvements are made to site sanitation and will implement the mitigation measure below for all operational activities and also that the contractor ensures that:

a) Measures to prevent malaria shall be implemented by installation of proper drainage to avoid formation of stagnant water, etc.

b) Standing water will not be allowed to accumulate in the drainage facilities or along the warehouse sides to prevent proliferation of mosquitoes.

c) Temporary and permanent drainage facilities will be designed to facilitate the rapid removal of surface water from all areas and prevent the accumulation of surface water ponds.

d) Malaria controls will be implemented in line with social plans for the Project.

8. Noise and Dust

Earthworks and rock crushing activities will be the main sources of dust and noise. There will be significant dust and noise impacts on surrounding environment if no proper mitigation measures are followed. Therefore, to minimize the dust pollution impacts, contractor will implement following measures:

a) Water sprinkling or spraying using tanker will be done twice a day to reduce dust generation. Water can be sourced from the nearby boreholes

b) Construction work will be carried out only during day time (from 8.00am to 6 pm).

c) If works have given rise to complaints over dust, the contractor shall investigate the cause, report it in the monthly progress reports and review and propose alternative mitigation measures before works recommence.

d) Suitable construction noise barrier will be designed and constructed

e) Fuel-efficient and well-maintained haulage trucks will be employed to minimize exhaust emissions. Regular maintenance will be carried out.

f) Vehicles transporting soil, sand and other construction materials will be covered with tarpaulin sheets to reduce the release of dust and avoid impacts from dust. Speed limits of such vehicles within the works site and on unpaved edge areas of the Project Road will be established and agreed.

11. Water Resource and Water Quality

During construction, the contractor will ensure the proper disposal of spoil and other waste. Hazardous waste such as oil and lubricants will be properly stored and sent for recycling. Solid municipal waste will be disposed-off in a municipal landfill.

13. Impact Flora and Fauna

The project area is located in an open townland desert area, a distance of approximately 8 kilometre from the Walvis bay CBD. Except for levelling of the sandy dunes, no removal of trees or vegetation will be required on the project area, there will be no other impact on flora and fauna. For removed trees, project will carry out compensatory plantation with locally available native tree species. Depending on the availability of space, compensatory ration would be either 1:1 (in small area) or 1:4 (if larger vacant area is available).

14. Archaeological and cultural artifacts

There are no known archaeological and cultural sites within Project area. And hence no impact is expected.

15. Compensatory Plantation

Project in consultation with local government; Divisional Forest Office and community will locate the government or even community barren for compensatory plantation. Compensatory plant using local or native tree species will be carried out to replace the trees felled during the construction. Ratio for compensation will be 1:1 if the area of plantation is small. However, the project can go up to 1:4 if the larger areas available.

13.1.3 OPERATIONAL PHASE

During the operational phase of the Project, Department of Trade will operate and maintain the Mini Dry truck Port. The investor will be responsible for occupational health and safety of the workers and other occupants of the project. It will also take fully responsibility of handling and management of all hazardous materials shipped through the truckport. No hazardous waste will be discharge directly into the local

drainage system. All hazardous waste will be collected and stored in a safe place until it is disposed of or recycled.

1. Noise and Dust

Noise standard permissible for industrial or commercial establishment are Daytime and Night-time. this applies for truck port operational area. However, immediately outside (within 10m), there are mixed used area and the permissible noise standard of daytime. So, the operational noise reaching will be limited to mixed used standard. Noise will be monitored within truck port compound and as well as for sensitive areas (residential places) during construction and operational stages. Based on noise quality assessment, detailed design will design noise barrier of high concrete compound wall and constructed it all around truck port compound to limit direct noise impact. Further during detailed and pre-construction stage, the hired contractor will ensure that tree felling strictly limited to required level. Design will consider wherever possible leaving those trees that are immediately in and outside the proposed concrete boundary wall (noise barrier) to further act as noise barriers.

Dust pollution will be of problem particularly during dry winter season, it will be reduced by having concrete/asphalt surfacing of parking and trucks plying area. Further, if required, the water will be sprayed at least twice daily to dampen the dust. With regard to toxic fumes emissions, the trucks entering the truck port compound will be checked of emission standards as per the current practice of Road Safety standards. Routine checking and penalizing the defaulters is expected to bring level of toxic fume emission to acceptable limits.

2. Dangerous Goods and Hazardous Waste

During operations, truck port may handle dangerous and hazardous goods which will pose risk to safety of workers and the surrounding inhabitants. Import and handling of hazardous chemicals and explosives may result in accidents and injuries or even death to people working and living in and around the truck port. If the hazardous substances are disposed of in an open area it will affect surrounding vegetation and even pose health and safety risk to local population. Therefore, Truck port operator, will implement following measures to avoid accidents or poisoning local environment involving hazardous substances:

i) Hazardous chemicals, oil and lubricants waste will be safely stored. Secondary containment around fuel storage area will be ensured.

ii) Explosive material or substances will be prohibited into truck port area

iii) Equipment/vehicle maintenance and refuelling areas will be confined to designated areas. And it will be provided with drainage leading to an oil-water separator that will be regularly skimmed of oil and maintained to ensure efficiency.

iv) Fuel and other hazardous substances will be stored in areas provided with roof, impervious flooring and bund/containment wall to protect these from the elements and to readily contain spilled fuel/lubricant.

v) Hazardous wastes (oil, used batteries, fuel drums) will be segregated, labelled and safely stored. The spent oil and batteries will be sold to recycling dealers.

vi) Hazardous materials will be stored away from water bodies and above flood level. vii) Clean-up operation using readily available absorbent such as sawdust will be carried out immediately during accidental spillage of hazardous waste

vii) All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations complying with all the applicable statutory stipulation

3. Sewerage and Wastewater Management

Truck port operation will generate sewage and wastewater. If untreated sewage and wastewater from port is released directly surrounding into environment or into the local drainage system, it will lead to pollution of land and water bodies. In order to avoid impacts of sewage and wastewater, DOT will implement following measures:

i) Truck port sewage system will be connected existing sewerage network system and/or an existing vacuum Sewage network system in the area.

ii) Based on the resulting wastewater from the truck port operation, Nambaza Investments cc will store wastewater and could be used for spraying to dampen dust during operation.

E. Cumulative Environmental Impact

More than adverse cumulative impacts, the cumulative beneficial impacts would be higher for the entire region as well as for Walvis Bay urban area, if truck port development along with the internal access road is carried out. Currently, all heavy transport carriers pass through the C14 main road going straight to the Walvis Bay port where all customs and transhipment activities are carried out at various locations without centralized processes. This results in huge delays which increases the vehicle operating cost and causes congestion within the town. Therefore, development of this proposed truck port would have following cumulative beneficial impacts:

i) Easing of traffic congestion inside Walvis Bay port & CBD;
ii) Reduction of travel distance for heavy trucks (traveling through Trans-kalahari highway)
iii) Reduction of overall transportation cost
iv) Reduction of fuel consumption and thereby lower greenhouse gas emissions
v) Reduction of vehicular noise and exhaust pollution within Walvis Bay metropolis
vi) Allowing of smooth and faster trading between Bhutan and regional countries; leading to better economic output of the country.

F. Trans-boundary Issues and Impacts

The proposed dryland truckport project is located a few kilometres from the Walvis Bay International airport about +-1 kilometres from the project area. The southern boundary of port is particularly close to some general industrial developments, who also welcomes the project. the development of the truckport therefore will create and play an integral role in the strategic distribution of goods and services from the walvis bay harbour port and from the international airport to other neighbouring countries, resulting in synergies of economy.

14. ENVIRONMENTAL MANAGEMENT PLAN

14.1 Objectives of the Environmental Management Plan (EMP)

An Environmental Management Plan (EMP) is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measure needed. The Environmental Management Plan (EMP) provides management options to ensure impacts of the proposed Truck Port development project and operations are minimised.

The EMP acts as a complimenting stand-alone document, which can be used during the various phases (operational and decommissioning) of the Truck Port project. All personnel taking part in the operation of the truck Port project should be made aware of the contents of the EMP, so as to plan the relevant activities accordingly in an environmental suitable way.

As a result, the objectives of an Environmental Management Plan are to ensure the following:

- To include all components of the proposed truckport project operations

- To prescribe the best and practicable control methods to lessen the environmental impacts associated with the operations of the Truckport
- To monitor and audit the performance and of operational personnel to supply such control
- Lastly is to ensure that appropriate environmental training is provided to all operational personnel.

The investor (Nambaza Investments cc) implements an Environmental Management System (EMS) similar to the ISO 14001 system. An environmental Management System is an internationally recognised and certified management system that will ensure ongoing incorporation of environmental constraints. **At the heart of an ISO 14001 EMS is the concept of continental improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following factors:**

- A stated environmental policy which sets the desired level of environmental performance
- An environmental legal register
- An institutional structure which sets out the responsibility, authority, line of communications and the resources needed to implement the EMS
- Identification of environmental, safety and health training needs
- An environmental program, stipulating environmental objectives and target to be met and work instructions and control to be applied in order to achieve compliance with the environmental policy
- Periodic internal and external audits and reviews of environmental performance and the effectiveness of the EMS.

Accordingly, commitment of the Developer to effective environmental management provides the channel whereby strategies are transformed from the documented form and implemented. For the truckport project, the developer is committed to implementing a comprehensive environmental management programme. The project manager/developer and Operations Manager have ultimate responsibility for the achievement of environmental targets during the construction and operational phases, respectively. The environmental programme commits the Owner to allocation of sufficient resources, continuous improvement of environmental management practices in order to fulfil social and ethical responsibility and compliance with national and international standards.

The developer is responsible for the:

- Allocation of Resources
- Risk Assessment
- ensuring that the environmental policy is in place and communicated to all workers
- Designating role of staff members in EMP
- Appointment and monitoring of environmental management team

15. THE IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

A. Implementation Arrangements

The environmental regulations in Namibia are derived from the Environmental Management Act (2007). The environmental assessment rules are set out in the Regulation for Environmental Clearance of Projects (2012). For this project the requirement for statutory environmental assessment will be determined by Ministry of Environment and Tourism.

Walvis Bay International Truck-Stop development will follow the principle of design and built modality. Nambaza Investment cc will hire construction contractor who will be responsible for design as well as carry-out the subsequent construction. Nambaza Investments cc will also assist in capacity building in environmental monitoring and reporting. Environmental Clearance will be issued by the Ministry of Environment, Forestry and Tourism (Directorate of Environmental Affairs) upon submission of the report and related comments with no objection certificates from the affected persons/community and other stakeholder.

Table 4: Defines the responsibilities for EMP implementation.

Agency	**Responsibilities**
Project Coordination Unit (Nambaza Investments cc)	• Executing agency with overall responsibility for project construction and operation • Ensure that sufficient funds are available to properly implement the EMP • Provide sufficient funding and human resources for proper and timely implementation of required mitigation measures in the EMP • Ensure that Construction Supervision Consultant is recruited. • Ensure that Project implementation complies with Namibia's environmental

	policies and regulations
	• Ensure that environmental protection and mitigation measures in the EMP are incorporated in the detailed designs • Establish and implement an environmental grievance redress mechanism, as described in the Act, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the Project's environmental performance. • Confirm that bidding and contract documents include the EMP. Submit semi-annual monitoring reports on EMP implementation to DEA (Directorate of Environmental Affairs) and identify environmental corrective actions and prepare a corrective action plan, as necessary, for submission. • Consult or hire an Environmental Specialist to ensure proper implementation of EMP provisions. Through this specialist shall: ▪ Ensure proper and timely implementation of tasks specified in the EMP, ▪ Conduct environmental training as specified in the EMP, ▪ Conduct contractors' workers' orientation on EMP provisions, ▪ Undertake regular monitoring of the contractor's environmental performance, as scheduled in the EMP ▪ Conduct field measurements for dust and noise as if complaints arise, ▪ Prepare environmental baseline report and semi-annual environmental monitoring reports, as specified in the EMP, for submission to DEA.
Project implementation Unit	• Liaise with the Environmental Officer in Erongo region or Walvis Bay to ensure that Project implementation complies with environmental standards, principles and requirements; • Ensure that bidding and contract documents include the EMP; • Ensure that the Contractor provide sufficient funding and human resources for proper and timely implementation of required mitigation measures in the EMP and the contractor(s) identify these sums separately in the bidding documents; • Submit quarterly reports on EMP implementation DEA and Nambaza Investments cc directors; • Ensure that EMP provisions are strictly implemented during various project phases (design/pre-construction, construction and operation) to mitigate environmental impacts to acceptable levels; • Check that environmental protection and mitigation measures in the EMP are incorporated in the detailed designs;

	• Check those necessary environmental clearances and approval(s) from DEA prior to award of civil works contracts; • Participate in an environmental grievance redress mechanism, as described in the Act, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the Project's environmental performance; • Ensure monitoring of the implementation of the EMP (mitigation and monitoring measures); • Prior to bidding ensure that the contractors agree to implement environmental and safety requirements as required in draft contracts to ensure compliance with environmental statutory and contractual obligations and proper implementation of the EMP; • Conduct environmental management awareness training sessions for Contractor as described in the EMP
Construction Supervision Consultant	• Attend environmental management and capacity building training sessions on the EMP; • Ensure implementation of mitigation and monitoring measures for various project phases in the EMP by contractors; • Undertake day to day environmental management and make observations and keep written record of environmental management activities for Truck port as described in the EMP. • Participate in an environmental grievance redress mechanism, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the Project's environmental performance
Contractor	• Prior to start of bidding agree in writing to implement (if selected) environmental and safety requirements to ensure compliance with environmental statutory and contractual obligations and proper implementation of the EMP. • Provide sufficient funding and human resources for proper and timely implementation of required mitigation measures in the EMP and identify these sums separately in the bidding documents. • Implement environmental and safety requirements to ensure compliance with environmental statutory and contractual obligations and proper implementation of the EMP • Attend environmental management awareness training sessions for Contractor as described in the EMP. • Implement additional environmental mitigation measures for unexpected impacts, as necessary

	• Participate in an environmental grievance redress mechanism, as described in the EMP, to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the Project's environmental performance.
Nambaza Investments cc (Investors for truck port)	• Responsible for operation and maintenance of Project. • Implement EMP monitoring during operations
DEA (Environmental Commission)	• Review and approve environmental assessment reports required by the Government. • Undertake monitoring of the project's environmental performance based on their mandate

To facilitate effective EMP implementation during construction, the contractors will be oriented on the environmental terms and conditions of the project. The contractor's compliance with the environmental conditions is directly linked with the work progress payments. Clearances for payments will include certification from the Project Manager as to the effective implementation of the EMP and all other mitigation measures specified in the EMP. The completion of implementation of mitigation measures will therefore be linked to payment milestones.

B. Environmental Mitigation

The anticipated environmental impacts and mitigation measures discussed in the previous section is presented in Table below. The table also shows responsibilities and timeframe/schedule for implementation of mitigation measures and monitoring.

Table below shows that most mitigation activities during pre-construction are to be implemented by the Project coordinator, (assisted by Construction Supervision Consultant). During construction mitigation measures shall be primarily implemented by the contractor and monitored by Construction Supervision Consultant on behalf of Nambaza Investments cc. During operation stage, Nambaza Investments cc and DEA will undertake environmental mitigation and monitoring requirements specified in the EMP.

To ensure implementation of mitigation measures during construction, the EMP will be included in the bidding and contract documents for civil works. Contractors' conformity with environmental contract procedures and specifications will be regularly monitored by Project Coordination Unit and results shall be reported semi-annually to Directorate of Environmental Affairs

15.1 Mitigation Measures during Constructions Phase & Operation Phases

Table 5: Environmental Mitigation and Environmental Performance Monitoring Plan for the proposed Truck Port on Portion 2 of the remainder of Farm 38 of Walvis Bay Townland

		Impact mitigation		Performance and Impact monitoring
Environmental Concern	**Objective**	**Proposed mitigation measures**	**Responsible for Implementation**	**Responsible to monitor**
DESIGN & PRE-CONSTRUCTION				
1. Detailed Design	Incorporate design measures in the project design to minimize environmental impacts	1. The Truck Port development will follow design and built modality. The contractor hired will be responsible for detailed design and subsequent construction of the truckport facilities. 2. The contractor will hire Environmental Specialist (ES) who will carry out the review and update the existing EMP during detail design and the project design will incorporate the environmental study recommendations. 3. EMP will be made integral part of the bidding and contract document. Environmental Mitigation measures will be itemized and put in the Bill of Quantities (BOQ). 4. Grievance Redress Committee will be formed prior to the start of civil works	Contractor	Project Coordination Unit

2. Environmental capacity development	Develop environmental management capacity	1. Nambaza Investments cc will provide environmental baseline (air and noise) monitoring equipment and the required training on data collection and assessment. 2. Project Management Unit shall conduct awareness training for the contractors and the site agents and workers on implementation of construction mitigation measures in the Project EMP and any additional mitigation measures that may be required during construction phase	Project implementation Unit & Construction Supervision Consultant	Regional Environment officer, Project implementation Unit& Construction Supervision Consultant
3. plant species removal or Site Clearance	Plant removal by contractor	1. Plant felling or removal will be done with approval from Department of Forest (DoF). The application for plant removal could be processed for approval but fortunately, no trees or sensitive plant species exist on project site apart from desert dandy dunes. 2. Upon approval from the DoF, Nambaza Investments cc will carry-out lant removal in accordance with procedure set forth in Forest and Nature Conservation policies. Only the necessary plants that marked by the DoF will be removed. 3. The economically valuable plant species on-site will be protected or reserved as per the environmental laws and	Contractor	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

		regulation. 4. Nambaza Investments cc in consultation with DoF will carry out compensatory plantation. Depending on the availability vacant or barren government land, compensatory ratio of minimum of 1:1 will be followed if area designated is small and for large area a ration 1:4 to be applied.		
4. Baseline Environment data (Air and Noise)	Establishment of baseline data on air and noise	1. As part of institutionalization and capacity building for environmental compliance monitoring and reporting, financial institutions together with Nambaza Investments cc will finance the procurement environmental monitoring equipment and provide the necessary training. Baseline data on air quality and noise levels of all sensitive area (commercial, residential and institutional) will be assessed before commencement of civil works. These data will help in assessing project impacts during implementation. 2. Based on noise quality assessment, detailed design will design noise barrier of high concrete compound wall around Truck port compound to limit direct noise impact during operation. Further during detailed and	Construction Supervision Consultant & Contractor	Project implementation Unit & Construction Supervision Consultant

		preconstruction stage, the hired contractor will ensure that tree felling strictly limited to required level. Design will consider wherever possible leaving those trees that are immediately in and outside the proposed concrete boundary wall (noise barrier) to further act as noise barriers.		
CONSTRUCTION STAGE				
1. Safety Precautions for the Workers	Ensure worker's safety	1. Worker's occupational health and safety will be generally governed Labour and Employment Act of Namibia 11of 2007. Construction works will generally result in accidents and injuries or even demise of the workers if no health and safety measures are followed. 2. General Rules and Regulations on Occupational Health and Safety (OHS) in Construction, Manufacturing, Mining and Service Industries will be applied for occupation safety. Mitigation measures to be implemented by contractors to ensure health and safety of workers are as follows: ▪ The contractor will conduct of training (assisted by Project implementation Unit) for all workers on safety and environmental hygiene at no cost to the employees. The contractor will instruct workers in health and safety matters	**Contractor**	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

		as required by law and by good engineering practice and provide first aid facilities. ▪ The contractors will instruct and induct all workers in health and safety matters (induction course) including construction camp rules and site agents/foremen will follow up with toolbox talks on a weekly basis. Workforce training for all workers starting on site will include safety and environmental hygiene. ▪ Fencing on all areas of excavation greater than 1m deep and sides of temporary works shall be observed. ▪ Workers shall be provided with appropriate personnel safety equipment such as safety boots, helmets, gloves, protective clothes, dust mask, goggles, and ear protection at no cost to the workers. ▪ Reversing signals (visual and audible) shall be installed on all construction vehicles and plant. ▪ Contractor will at all-time keep the first aid kit at the construction sites. ▪ Contractor will be responsible for evacuation injured		

		person to the nearest medical centre and bear all the medical expenses		
2. Public safety	Prevent accident with public in local community	1. Install barriers (e.g., temporary fence) at construction areas to deter pedestrian access to the roadway except at designated crossing points. 2. The general public/local residents shall not be allowed in high-risk areas, e.g., excavation sites and areas where heavy equipment is in operation and such sites have a watchman to keep public out. 3. Speed restrictions shall be imposed on Project vehicles and equipment when traveling within 50 m of sensitive receptors 4. Upon completion of construction works, borrow areas will be backfilled (if suitable materials are available, e.g., excavation spoils) or fenced.	**Contractor**	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget
3a. General Construction Waste Management	Reduce, reuse and recycle waste and contamination due to	5. Uncontrolled waste disposal operations can cause significant impacts. Mitigation measures will seek to reduce, recycle and reuse waste as far as practicable. The	**Contractor**	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

	poor waste disposal practices	contractors will ensure implementation of following measures. ▪ In principle, the waste generation will be minimized at source. ▪ Waste products will be segregated, placed into wheel bins and skip container where possible. ▪ Recyclable waste will be sold to the scrap dealers. ▪ Organic waste such as plant materials will be composted ▪ Residual non-hazardous waste will be disposed off in the municipal landfill. ▪ Construction/workers' camps will be provided with sufficient refuse bins. ▪ Burning of construction and domestic wastes will be prohibited. ▪ Disposal of solid wastes into flood ways, wetland, rivers, other watercourses, farmland, forest and associated places of worship or other culturally sensitive areas or areas where a livelihood is derived canals, agricultural fields and public areas will be prohibited.		
3b. Use of hazardous substances and	Minimize contamination due to use and storage of	1. Use of hazardous substances including oils and lubricants can cause significant impacts if uncontrolled or if waste is	**Contractor**	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

hazardous waste disposal	hazardous substances	not disposed correctly. Hazardous substance disposed of into open area and drainage system will directly harm surrounding environment and downstream water body. 2. Mitigation measures will seek to control access to and the use of hazardous substances such as oils and lubricants and control waste disposal. Contractor will carry out following measures to minimize the impacts: ▪ Oil and lubricants will be safely stored. Secondary containment around fuel storage area will be ensured. ▪ Hydrocarbon, toxic material and explosives (if required) will be stored in adequately protected sites as per the Explosive and Hazardous Rules of government to prevent soil and water contamination. ▪ Equipment/vehicle maintenance and refuelling areas will be confined to areas in construction sites designed to contain spilled lubricants and fuels. Such areas will be provided with drainage leading to an oil-water separator that will be regularly skimmed of oil and maintained to ensure efficiency.		

		▪ Fuel and other hazardous substances will be stored in areas provided with roof, impervious flooring and bund/containment wall to protect these from the elements and to readily contain spilled fuel/lubricant. ▪ Hazardous wastes (oil, used batteries, fuel drums) will be segregated, labelled and safely stored. The spent oil and batteries will be sold to recycling dealers ▪ Hazardous materials will be stored away from water bodies and above flood level. Clean-up operation using readily available absorbent such as sawdust will be carried out immediately during accidental spillage of hazardous waste. ▪ All areas intended for storage of hazardous materials will be quarantined and provided with adequate facilities to combat emergency situations complying with all the applicable statutory stipulation.		
4. Drainage and Hydrological Impacts	To minimize hydrological impacts flooding and runoff of river banks.	1. Since there is no river close by the project area, no direct adverse effects will be caused by the Truck Port construction activities. However, there will be an induced impact on the underground water quality and its aquatic life, since the storm water carrying silt and other waste might ultimately join the under.	**Contractor**	Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

		Contractor will implement following measures to minimize the impacts: ▪ During construction, the contractor will ensure the proper disposal of spoil and other waste. ▪ Hazardous waste such as oil and lubricants will be properly stored and sent for recycling. ▪ Solid municipal waste will be disposed of in a municipal landfill		
5. Traffic Management	Minimize disturbance of traffic and traffic congestion	1. Communicate to the public through local officials regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restrictions. 2. In coordination with local traffic authorities, implement appropriate traffic diversion schemes to avoid inconvenience due to project operations to road users, ensure smooth traffic flow and avoid or minimize accidents, traffic hold ups and congestion 3. In coordination with local traffic officials, schedule transport of materials to avoid congestion, set up clear traffic signal boards and traffic advisory signs at the roads going in and out the road and bridge construction sites to minimize traffic build-up. 4. Provide safe vehicle and pedestrian access around	**Contractor & Project implementation Unit**	Project implementation Unit budget, Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

		construction areas. 5. Install bold diversion signs that would be clearly visible even at night and provide flag persons to warn of dangerous conditions (24 hours, as necessary) 6. Provide sufficient lighting at night within and in the vicinity of construction sites.		
6. Sanitation and Diseases	Control of infectious diseases	1. Standing water will not be allowed to accumulate in the temporary drainage facilities or along the roadside to prevent proliferation of mosquitoes. 2. Temporary and permanent drainage facilities will be designed to facilitate the rapid removal of surface water from all areas and prevent the accumulation of surface water ponds. 3. Malaria controls ((e.g., provision of insecticide treated mosquito nets to workers, installation of proper drainage to avoid formation of stagnant water, etc.) and HIVAIDS education will be implemented in line with social plans for the project.	**Contractor**	Project implementation Unit budget, Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget
7. Noise and dust nuisances	To minimize air impacts effectively and avoid complaints due to the airborne dust.	Although temporary in nature, construction activities generate noise and dust pollution affecting local communities as well as other establishments. Noise and dust may affect the communities living across the Walvis Bay C14 road area or C14 highway. Following mitigation measure will be applied to reduce nuisances:	**Contractor** & **Construction Supervision Consultant**	Project implementation Unit budget, Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget

		1. Water sprinkling or spraying using tanker will be done twice a day to reduce dust generation. 2. No work will be carried out within 500m of any settlement during the night (2100 hrs to 0700 hrs). 3. Fuel-efficient and well-maintained haulage trucks will be employed to minimize exhaust emissions. Regular maintenance will be carried out. 4. Noise and dust monitoring will be required carried out during the construction. 5. Temporary Noise barrier made of thick ply board or MS sheet will be erected during construction. 6. High concrete wall (as prescribed by design) will be constructed all around the Truck port area to noise travel and impact on communities living nearby.		
8.Compensatory Plantation	Provide environmental enhancement of the project	Project Investors in consultation with local government; Divisional of Forest Office and community will locate the government or even community barren for compensatory plantation. Compensatory plant using local or native tree species will be carried out to replace the plant felled or removed during the construction. Ratio for compensation will be 1:1 if the area of plantation is small. However, the project can go up to 1:4 if the larger areas available.	**Contractor**	Project implementation Unit budget, Construction Supervision Consultant budget & Directorate of Forestry (DoF) Budget
OPERATIONAL STAGE				
1. Noise and Dust	Minimize noise and dust	1. Noise will be monitored within Truck port project area and	**Truck Port**	Nambaza Investments cc budget

	pollution	as well as for sensitive areas (residential places) during construction and operational stages. Based on noise quality assessment, detailed design will design noise barrier of high concrete project area wall and constructed it all around Truck port area to limit direct noise impact. 2. Further during detailed and pre-construction stage, the hired contractor will ensure that tree felling/ plant removal is strictly limited to required level. Design will consider wherever possible leaving those plants/ trees that are immediately in and outside the proposed concrete boundary wall (noise barrier) to further act as noise barriers. 3. Truck port operation will give rise to dust and toxic fumes pollution both within and outside Truck port area. Dust pollution will be of problem particularly during dry winter season, it will be reduced by having concrete/asphalt surfacing of parking and trucks playing area. Further, if required, the water will be sprayed at least twice daily to dampen the dust. 4. Toxic fumes emissions, the trucks entering the project area will be checked of emission standards.	**Operator (Nambaza Investments cc)**	

		5. Routine checking and penalizing the defaulters is expected to bring level of toxic fume emission to acceptable limits.		
2.Dangerous goods and Hazardous waste	**Minimize noise and dust pollution impacts**	During operations, Truck Port may handle dangerous and hazardous goods which will pose risk to safety of workers and the surrounding inhabitants. Import and handling of hazardous chemicals and explosives may result in accidents and injuries or even death to people working and living in and around the port. Hazardous chemicals if discharged into drainage system will affect the downstream water quality. If the hazardous substances are disposed of in an open area it will affect surrounding vegetation and even pose health and safety risk to local population. Therefore, Truck Port operator, the Department of Health will implement following measures to avoid accidents: 1. Hazardous chemicals, oil and lubricants waste will be safely stored. Secondary containment around fuel storage area will be ensured. 2. Explosive material or substances will be prohibited into Project truck port area 3. Equipment/vehicle maintenance and refuelling areas will be confined to designated areas. And it will be provided	Truck Port Operator (Trans-Zambezi Truckport & Investments cc)	Nambaza Investments cc budget

		with drainage leading to an oil-water separator that will be regularly skimmed of oil and maintained to ensure efficiency. 4. Fuel and other hazardous substances will be stored in areas provided with roof, impervious flooring and bund/containment wall to protect these from the elements and to readily contain spilled fuel/lubricant.		
3.Waste Water management	Management Prevent waste water from entering into local water bodies	Truck Port operation will generate sewage and wastewater. If untreated sewage and wastewater from truck port is released directly surrounding into environment or into the local drainage system, it will lead to pollution of land and water bodies. In order to avoid impacts of sewage and wastewater, Nambaza Investments cc will implement following measures: 1. Truck port sewage system will be connected to a septic tank sewearage system that shall be constructed onsite to absorb and store waste water before the sewerage is safely drained and emptied by the Walvis Bay Municipality waste department 2. Furthermore, generated wastes shall be disposed to the Walvis Bay designated a& approved dumping site at different intervals. 3. Also treated wastewater could be used for spraying to	**Truck Port Operator (Nambaza Investments cc)**	Nambaza Investments cc budget

		dampen dust during operation.		

The EMP will have specific targets for each year that will be evaluated by the annual Environmental audit. The audit can make recommendations which will necessitate Changes in the EMP. The EMP will be reviewed on an ongoing basis as new environmental challenges arise or targets/objectives are achieved. The Operations Manager will ensure that this review occurs in a timely manner.

16. DECOMISSIONING PHASE

Once the development for Truckport lifespan years have lapsed, the project will be subject for decommissioning. Although the sale or alienation of land is often subject for private ownership under private treaty, the decision to sale or return the truck port will lie with the property owners (Nambaza Investment cc). Nambaza Investment cc will have the ultimate decision to either sale the property or continue with operation of the facility. However other harmful items such absolute metal construction equipment's which have been used for years, will be destroyed and will be disposed at a designated Walvis Bay dumping site where community members have no access due to restriction of the site and can only be accessed with permission from the Walvis Municipal Council. All management actions as provided for in the operational phase are therefore valid up to the decommissioning. At the time of the Truckport closure, the investor (Nambaza Investments cc) must and should ensure that the area has been successfully rehabilitated and all waste, including polluted soil or water, has been removed and disposed of at an approved dumping site. No form of waste may be buried.

17. CONCLUSIONS AND RECOMMENDATIONS

This study reveals that the impacts from Walvis Bay International Truck-Stop (truck port) construction and development are predictable and manageable; impacts can be either avoid, minimized or compensated. The Environmental Management Plan (EMP) covers all aspects Truck port construction and development. The contractor engaged for Truckport development, will be responsible for carrying out the detailed design and subsequent construction of truck port's facilities. The current EMP will be further reviewed and updated by Project implementation Unit and Construction Supervision Consultant of the Truck Port prior to the construction and even during the construction. Institutionalization of environmental compliance monitoring and capacity building of project and related staffs will be carried out.

The proposed Truck Port will enable grouping of Migration clearance services; immigration; and other facilities in one single area thus enabling faster processing of goods and services. In addition, by

providing appropriate transportation and parking areas for the trucks in the truck port area, the current illegal parking of trucks on the highway and congestion in the town of Walvis Bay will be avoided. The major benefits of the project are following:

i) Truck and cargo idle time savings resulting from reduced dwell time in the Erongo region.
ii) Reduction of losses of perishable goods resulting from the construction of a covered area.
iii) Share of the benefits (Vehicle operating cost and travel time savings) resulting from avoided distance to drive to the current weighbridge before going down into town or to Customs office.

Over all, the environmental benefits result from lower emission due to lesser requirement of truck movements due to faster customs clearance and efficient transportation. Benefit also result from lesser waste generation due to minimum spoilage of perishable goods. Therefore, this project is recommended for implementation as its implementation will benefit both natural and man-made environment in the long run.

.....

Nyepez Consultancy cc
Environmental Assessment Practioner and Management Consultant

18. REFERENCES

CSIR, 2000.*Guidelines for human settlement planning and design*. Chapter 9. Water supply

DWAF, 2008. Code of practice: Volume 1. Septic tank systems. General guidelines

Directorate of Environmental Affairs, 2008. Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). Directorate of Environmental Affairs, Ministry of Environment & Tourism, Windhoek

Hitula, H. (2011). An Integrated Urban Spatial Development Framework for Walvis Bay (Part 1). Integrated Urban Planning – Applied Report

Legal Assistsnce Centre (LAC) and the advocacy unit Namibia National Farmers Union (NNFU), 2009. *Guide to the Communal Land Reform Act, 2002. Published by LAC, Windhoek*

Mendelsohn, J. El Obeid, S. And Roberts, C. 1997.*An environmental profile and atlas of Caprivi.* Windhoek: Ministry of Environmental and Tourism.

Mendelsohn, J. Jarvis, A. Roberts, C. and Robertson, T. 2002. *Atlas of Namibia*. *A portrait of the land and its people.* Published for MET by David Philip.

MET. 1995a. *Wildlife management, utilisation and tourism in communal areas. Policy document*. Windhoek: Ministry of Environmental and Tourism.

MLR, 2006.*Operational Manual for Communal Land Boards.* Windhoek: Ministry of Lands and Resettlement

NACSO, 2008.*Namibia's communal conservancies. A review of progress and challenges in 2007*. NACSO, Windhoek.

NACSO, 2011.*Namibia's communal conservancies. A review of progress and challenges in 2010*. NACSO, Windhoek.

National Agricultural Policy.1995. The Minster of Agriculture, Water And Rural Development. White Paper. Windhoek

Simmons, R.E. Barnes K.N., Jarvis, A.M. & Robertson, A. 1999. *Important Bird areas in Namibia. Research Discussion Paper. DEA, Ministry of Environmental and Tourism.*

Pastakia, C.M.R.1998.the Rapid Impact Assessment Matrix (RIAM) – Anew tool for Environmental Impact Assessment.

Food Association Organisation (FAO). 2012. Environmental impact assessment. Guidelines for FAO field projects. Report