

**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR
THE SUBDIVISION OF EENHANA TOWNLANDS NO.
859 AND CONSTRUCTION AND OPERATION OF A
FUEL RETAIL STATION AND TRUCK PORT ON
PORTION 35 IN EENHANA, OHANGWENA REGION.**

ENVIRONMENTAL SCOPING REPORT

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DOCUMENT DESCRIPTION

PROJECT: Subdivision of Eenhana Townlands No. 859 and construction and operation of a fuel retail station and truck port on Portion 35 in Eenhana, Ohangwena Region.

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LIST OF ACRONYMS

CEB:	Cuvelai-Etosha Basin
DEAF:	Directorate of Environmental Affairs and Forestry
DWRM:	Directorate of Water Resource Management
EAP:	Environmental Assessment Policy
EIA:	Environmental Impact Assessments
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
EMS:	Environmental Management System
FOG:	Fat, Oil and Grease
HSEQ:	Health, Safety & Environment Quality System
I&APs:	Interested and Affected Parties
ISO:	International Standards Organisation
LNAPL:	Light Non-Aqueous Phase Liquids
MAWLR	Ministry of Agriculture, Water, and land Reform
MEFT:	Ministry of Environment, Forestry and Tourism
MSDS:	Material Safety Data Sheet
MURD:	Ministry of Urban and Rural Development
NORED	Northern Regional Electricity Distributor
PPE:	Personal Protective Equipment
SANS:	South African National Standards
ULP:	Unleaded Petrol
URPB:	Urban and Rural Planning Board
NSA:	Namibia Statistic Agency

EXECUTIVE SUMMARY

Peace Garden Investment (PTY) Ltd has received approval from Eenhana Town Council to subdivide Eenhana Townlands No. 859 into portion 35 and remainder. The proponent intends to construct and operate a fuel retail station, a truck port, and associated infrastructures on portion 35. The proposed development will trigger activities listed under the Environmental Management Act 07 of 2007 as activities that may not be conducted without an Environmental Impact Assessment (EIA) being undertaken and Environmental Clearance Certificate (ECC) being obtained. Green Gain Consultant cc has been appointed to undertake the Environmental Impact Assessment (EIA), compile Environmental scoping report & Environmental Management Plan (EMP), and apply for the ECC.

The EIA is conducted to determine all environmental, safety, health and socio-economic impacts associated with the change in land use as well as the construction and operation of the proposed project. Relevant environmental information on the receiving environment and the proposed development were collected and used as a basis of the assessment of potential impacts. Possible project alternatives were also analyzed and inputs from stakeholders and interested and affected parties (I&APs) were obtained and incorporated in this report.

Potential environmental impacts and associated social impacts during planning & design, construction and operation of the proposed project have been identified and are adequately addressed in this report. A risk assessment was undertaken to determine the significance of the identified impacts. This will enable decision makers to make an informed decision regarding The Facility from an environmental perspective. Consideration was also given to the relevant legislative framework such as the Environmental Management Act 07 of 2007 and the Petroleum Products and Energy Act 13 of 1990.

Appended to this report is also an Environmental Management Plan (EMP) which upon approval by the authorities will be a legal bidding and a site reference document to guide the planning & design, construction, and operation of the proposed development.

1. INTRODUCTION

1.1 Background

Peace Garden Investment (PTY) Ltd, hereinafter referred to as the proponent intends to construct and operate a fuel retail station and truck port on Erf 35 (Portion A) of Eenhana Townlands No. 859. The proposed development site is still undermined; hence town planning procedures will be applied in line with the Townships and Division of Land Ordinance 11 of 1963, as amended and approval will be obtained from the Urban and Rural Planning Board (URPB) under the Ministry of Urban and Rural Development (MURD) for the intended subdivision.

Upon subdivision, Portion 35 will be zoned “Business” in line with Eenhana Town Planning Scheme and will be utilized for the construction and operation of a fuel retail station, a truck port, and associated infrastructures. The intended development will include the followings.

- Fuel station (Canopy, fuel storage tanks, and Pumps)
- Convenient shop and site office
- Truck parking lot (port)
- Tyre fitment
- Ablution facilities (Toilet and shower, septic tank)
- Other general operational activities and maintenance procedures associated with a fuel retail facility.

The proposed development will trigger certain activities listed under the Environmental Management Act 07 of 2007 as activities that may not be conducted without an EIA being undertaken. Hence, Green Gain Consultants cc was appointed to conduct the EIA, prepare the EMP and apply for the ECC. The proponent has already obtained a Consent from Eenhana town Council for the subdivision and purchase of portion 35 (see attached Council resolutions).

The EIA was conducted to determine all environmental, safety, health and socio-economic impacts associated with the construction, operations and decommissioning of the proposed project. The main objective is to comply with the Regulations of the Environmental Management Act 07 of 2007, the Petroleum Products and Energy Act 13 of 1990 and other relevant legislations.

1.2 Purpose of the study

The aims and objectives of this EIA report are to:

- Evaluate the suitability of the proposed development against the biophysical and socio-economic of the area.
- To investigate any environmental and socio-economic impacts associated with this project's activities.
- Provide sufficient information to determine whether the proposed construction and operations will result in significant adverse impacts.
- Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
- To consult potential Interested and Affected Parties (I&APs) and relevant stakeholders and to also ensure that their needs and concerns are considered.
- Comply with the Environmental Management Act (No. 07 of 2007); and
- Provide sufficient information to the Ministry of Environment & Tourism and the Ministry of Mines and Energy, to make an informed decision regarding the proposed Facility.

1.3 Scope of the study

The scope of the EIA is to determine the potential environment impacts emanating from the construction, operation, and potential decommissioning of the proposed facility. Relevant environmental data has been compiled by making use both primary and secondary data, from site visits, relevant stakeholders, and interested & affected parties (I&APs) consultations and review of relevant literature and legal instruments. The scope of the EIA included the following.

- Collection of baseline information about the site and its surroundings was obtained from existing secondary information as well as from site visits.
- Legal and policy review.
- Gleaning over existing information pertaining to similar developments and issues; and
- As part of the scoping process to determine potential environmental impacts, Interested and Affected Parties (I&APs) are usually consulted concerning their views, comments, and opinions and these are included in this report.

1.4 Methodology

The environmental impact assessment study was conducted in line with Namibia's Environmental Management Act of 2007 and its Regulations (GN No. 30 February 2012). This Draft Scoping report will be submitted to the registered I&APs and relevant stakeholders, after which the final Draft Scoping report will be submitted to DEAF for record of decision.

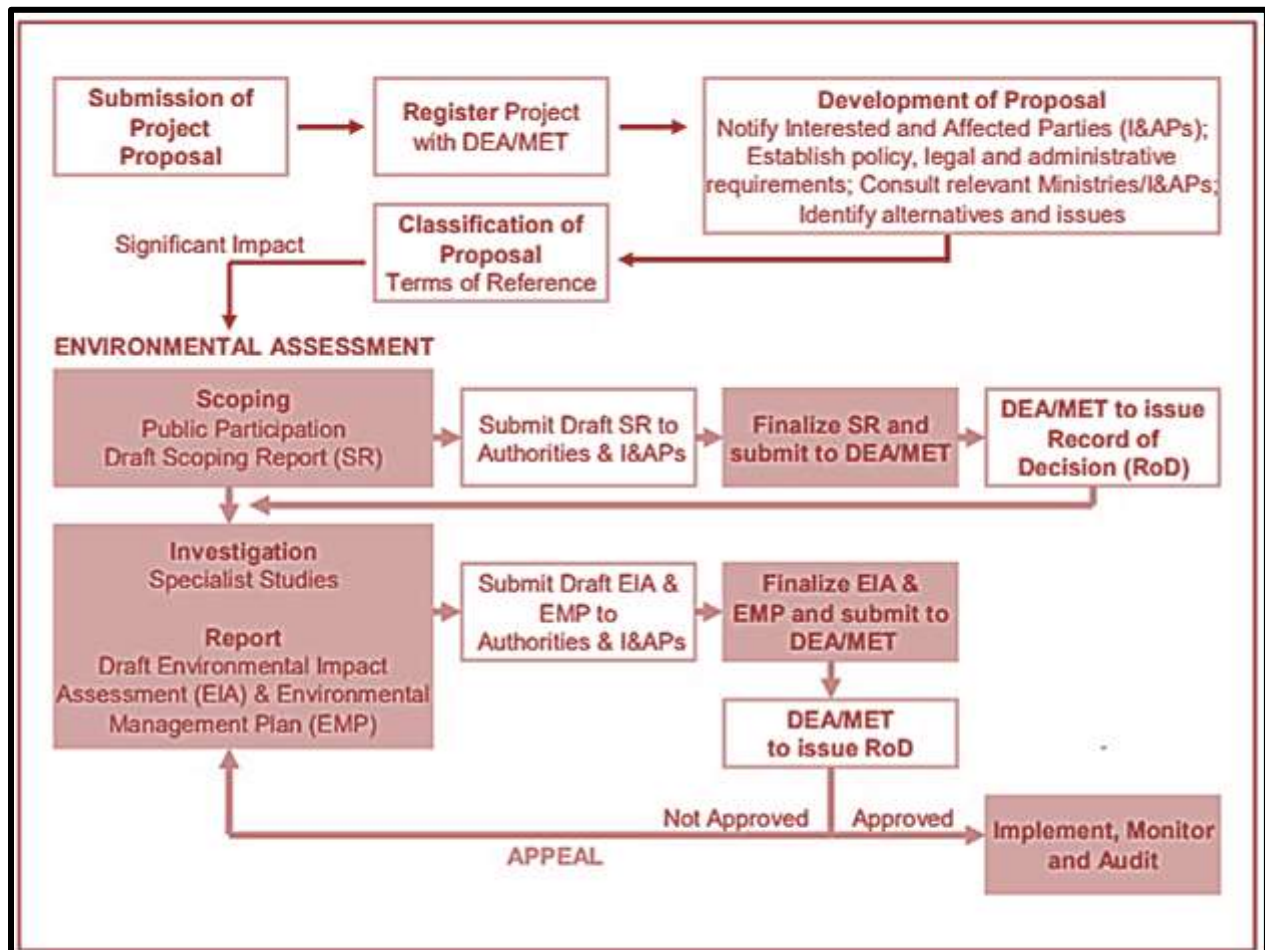


Figure 1: Namibia's EIA process

2. DESCRIPTION OF THE PROJECT ACTIVITIES

2.1 Site locality

The proposed development site (Portion 35) is about 25000 m² in extent and is located north of the town's CBD, along the main road Onhuno to Okongo. The site can be located on the following coordinates *-17.475595" South and 16.354501" East*.

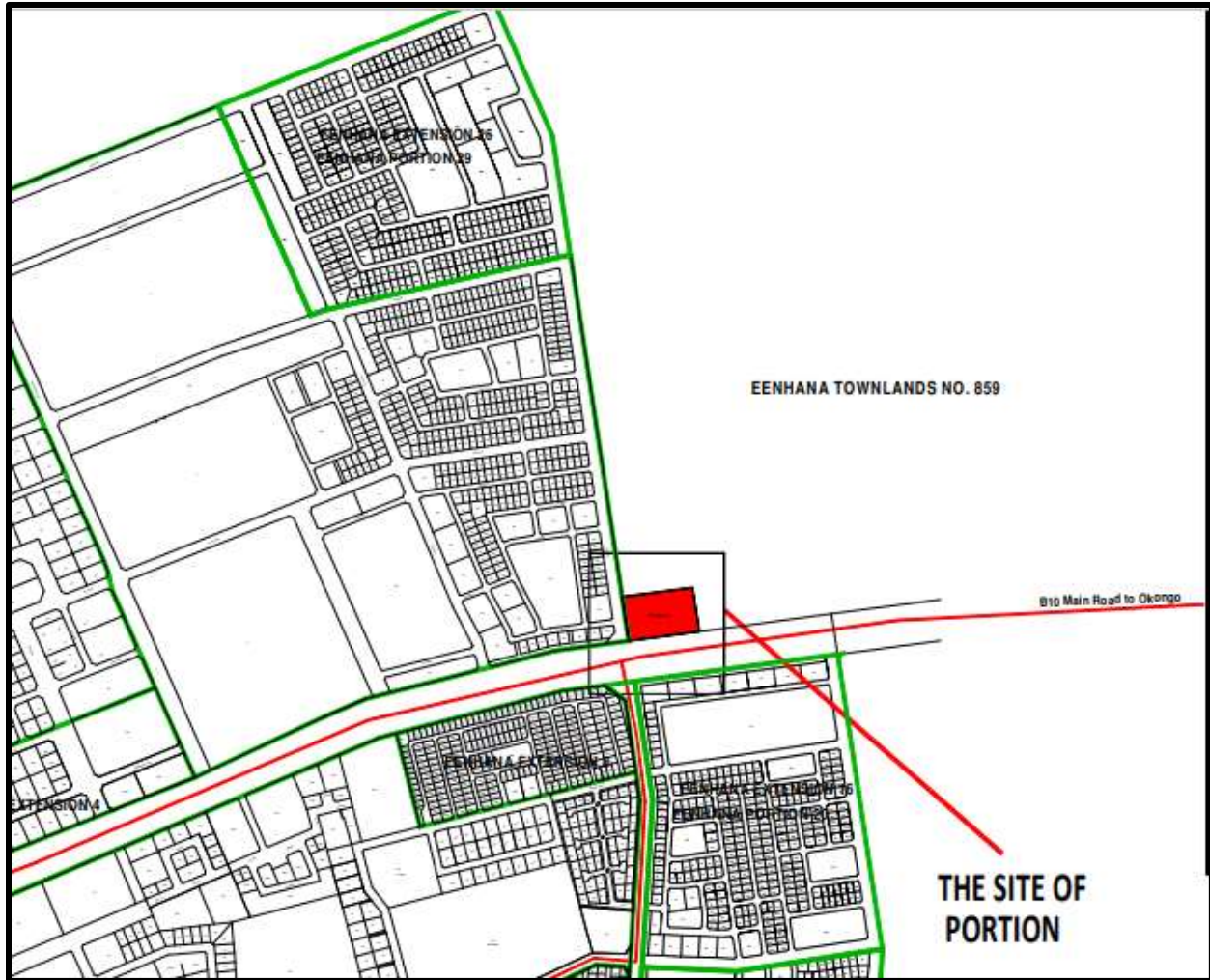


Figure 2: Locality map

2.2 Site context

As it can be seen in the pictures below, the site is currently vacant and undeveloped but somehow disturbed. The site has also been cleared of its natural vegetation to pave way for the proposed development. Although the site is within the townlands, there are no existing municipal services available onsite, except for NORED powerline which is in the proximity of the site. However municipal services such as sewer and potable water networks are within a reachable distance from the site. There is no official access route to the site, however it is accessible from the main road (C45).



Figure 3: Photograph taken on site.

2.3 Proposed subdivision and zoning

As stated in the introduction section, the proposed development site is part of the Eenhana Townlands No. 859 which is still undetermined. Hence, the proponent has appointed Plantek Town and Regional Planners to subdivide the site into Portion A/35 and remainder. Upon subdivision Portion 35 will be zoned “Business” to accommodate the envisaged development in line with the Eenhana Town Planning Scheme.

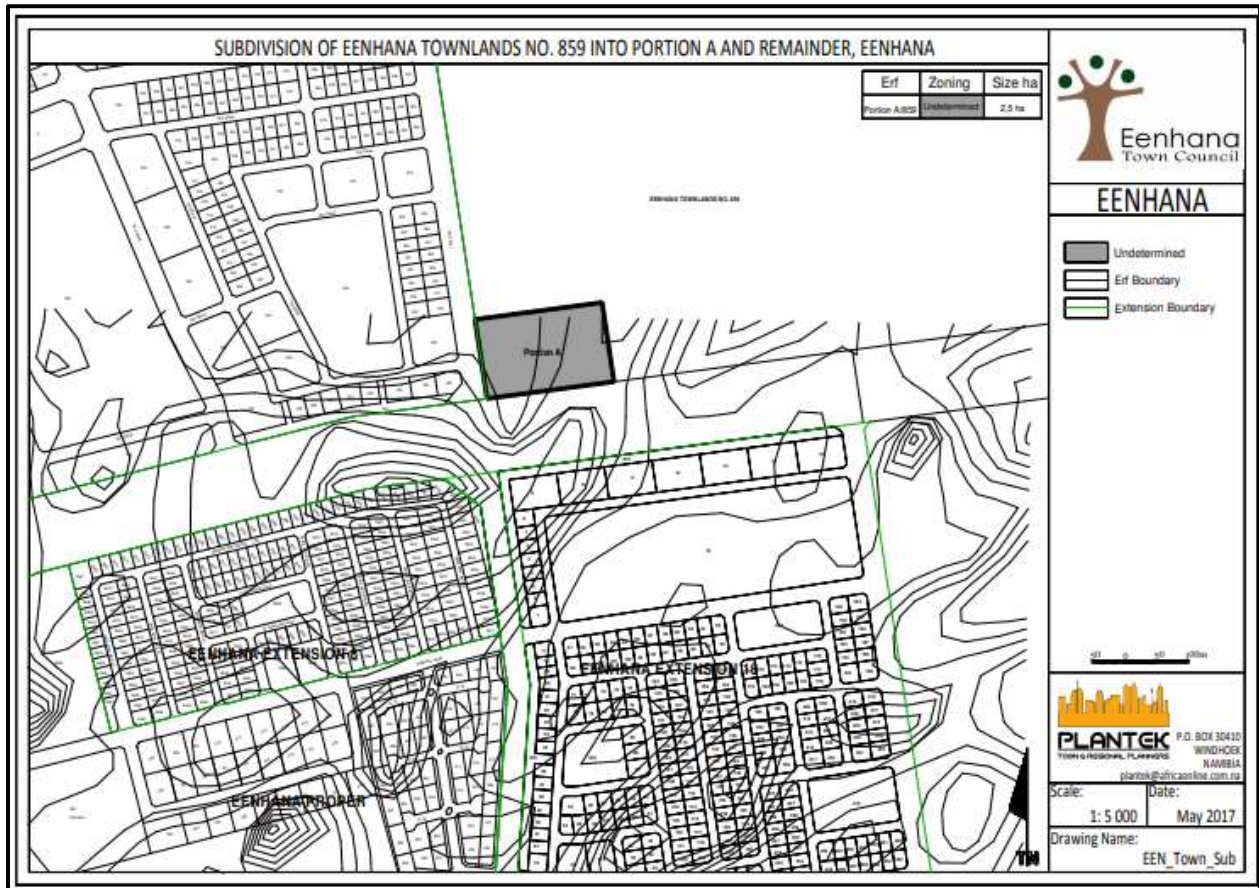


Figure 4: Proposed subdivision

2.4 Construction and operation of the proposed project

ii). Design and layouts.

The proposed project will consist of the following facilities.

- Fuel station (Canopy, fuel storage tanks, and Pumps)
- Convenient shop and site office
- Truck parking lot (port)
- Tyre fitment
- Ablution facilities (Toilet and shower, septic tank)
- Other general operational activities and maintenance procedures associated with a fuel retail facility.

The proposed design and layout of the proposed project is not available at this stage. However, this will be executed with due consideration of the existing topography of the proposed development site. In general, the design of the project will optimize the use of the best available technology to prevent or minimize potentially significant environmental impacts associated with the project and to incorporate efficient operational controls together with trained staff, to ensure high level business and environmental performances. Typically, the site used for development of a fuel station should include the followings.

- 3152 Oil Interceptor [API Style] manufactured to meet AASHTO HS20 live loading.
- Unit dimensions are 3.0 x 1.5 x 2.0 m.
- Reinforced concrete lid manufactured for AASHTO HS20 live loading.
- Unit C/W 102 mm thick cores for inlet/outlets as shown.
- Unit c/w 2- ϕ 635, 1- ϕ 914 mm opening for accesses as shown.
- Oil interceptor c/w 102 mm thick concrete baffles as shown.
- Unit has a maximum 5,580-liter (5.58 m³) capacity.
- Unit c/w lifting inserts as required.
- Unit c/w ladder rungs upon request
- PVC required by design, installed by others in field.
- Design can be modified for specific application [contact LCG sales office]
- Minimum rebar yield strength: 414 MPA.
- Minimum concrete strength: 35 MPA.
- All dimensions are in millimeters.

In addition, the filling station area will be covered with interlocks covering all open sections apart from the office and sanitary facilities. There will also be a guard house next to the main entrance for easy security operations around the compound during construction and there will be always guards during the operation phase of the project.

2.5 Construction phase

The implementation of the project's design and construction phase will start with thorough investigation of the site's biological and physical resources to minimize any unforeseen adverse impacts during the Project cycle. The construction phase will involve removal of topsoil and vegetation and the leveling of the site. Excavations will be done to facilitate the laying of foundations and underground tanks. There will also be transportation of construction materials and associated wastes to and from the site, respectively. The conclusion of the construction phase will be the establishment of a filling station comprising of features discussed earlier in this report. Since the change in the land surface will impact on the storm water flows, adequate drainage system will be put in place.

a) Construction Materials and Technology

The building materials will consist of natural stones, sand, and cement. Also, steel pipes, roofing tiles, wall tiles, PVC pipes, steel rods and glass will be used. Other materials that will be used on site include timber. The building will be constructed as per the respective structural engineer's detail as provided for in the site plan. Basically, the building structure will consist of concrete appropriately reinforced with metal (steel and iron). The building will be provided with facilities for drainage of storm water from the roof and canopy through peripheral drainage systems into the storm water drainage system. Drainage pipes will be of the PVC type and will be laid under the building and the driveway encased in concrete.

The development will be connected to a septic tank to be put up during project implementation. The development will have adequate natural ventilation through provision of permanent vents in all habitable rooms, adequate natural and artificial light, piped water stored in tanks and above ground water tanks provided with water pumps to feed overhead tanks and firefighting facilities. The technology used in the design and the construction of the filling station will be based on national and international standards which have been customized in Namibia. These include building standards including the Local Building Code and the South Africa Building Standards (SBS). Important to note is that the constructions will incorporate, Environmental Protection and Resource Conservation guidelines Occupational Health and Safety measures.

b) Utilities

The filling station will have a comprehensive and robust infrastructure including, parking area, water storage, electricity distribution and waste disposal. The site will be connected to the electricity main line of the NORED and lighting company, which will be in all phases of the project. The necessary guidelines and precautionary measures relating to the use of electricity shall be adhered to. Water will be sourced from the town council water connections. More so there will be water storage tanks to increase water capacity at the project site to the required amount. Operation phase

2.6 Operation phase

Services to be offered

The operation of the service will include mainly.

- Filling of the storage tanks with fuel from road transport tankers.
- Truck parking and wash bay
- Dispensing of fuel to customers.
- Operation of a convenient shop selling lubricants and fast food and necessities.
- Other general operational activities and maintenance procedures associated with a fuel retail facility.

i. Filling station

The proponent intends to lease the fuel retail station to an interested operator. The operation of the retail facility will be subjected to the Petroleum Products and Energy Act, 1990 and its Regulations of 2000. Hence, the operator must apply for a retail licence from the MME prior to the operation of the fuel retail facility.

ii. Convenient shop and truck port

The proponent intends to operate the convenient shop and truck port business part. The proponent will make sure to comply with the relevant legislation in terms of trade requirements for instance to obtain Fitness Certificate from the Town Council, Liquor Licence etc.

iii. Associated services

- General waste management

Various activities such as use of sanitary facilities, servicing area and operation of the station in general, will result in the production of a lot of solid waste including used oil and grease containers as well as papers. The proponent will provide facilities for handling solid waste generated within the station. These will include dust bin for the sections, a central waste collection for temporarily holding waste within the premises before segregation and final collection for transportation.

Solid waste collection center for the entire station will be located strategically and covered on top and on the sides to protect against weather and scavengers. Waste bins will be provided for each section for temporarily holding of waste before delivery into the central solid waste collection area. The waste will then be collected private waste collectors for disposal at the Eenhana waste disposal site.

- Wastewater management

There will be ablution facilities consisting of male and female toilets as well as showers. Sewage and liquid waste from the kitchen will be discharged into the town Council sewage system. However, before discharge wastewater into the peripheral storm water drainage systems, this assessment recommends the construction of a Fat-Oil-Grease trap to aid in the removal of oil and grease from the wastewater. Stormwater from the project area during the rainy seasons will be channeled into a water drainage system that will be developed within the site.

- Security

A guard shall be located next to the main entrance for easy security operations around the compound during construction and there will be always guards during the operation phase of the Project.

- Parking area

The parking area will be provided with facilities such as lights, and signs for easy entry and exit to allow free flow of traffic. The parking bay will be inclined to a degree that does not allow stagnation of water and thus linked to storm water drainage system. Parking area floor will be made of capro slabs.

- Landscaping and beautification

The un-built area will be landscaped after construction, using plant species available locally. This will include establishment of flowerpots to improve the visual quality of the site.

3. PROJECT VIABILITY AND DESIRABILITY

The proposed new fuel retail station and truck port is considered viable based the fact that there is fewer similar projects and unique locality.

3.1 Fewer similar projects

Currently Eenhana is served with at least two fuel retail stations (depicted with red dots in Figure below). However, all the existing fuel retail stations do not have truck port services. As such many long-distance trucks are found park in streets and along the road. Moreover, the growth of the town both in terms of economic development and population size present opportunities of different kinds.

Hence, the demand for fuel is rapidly increasing and the proposed fuel retail facility will contribute towards a reliable fuel supply in the area, thus encouraging long-distance travelers to sleeper over in the town which will benefit local businesses. The new fuel retail station will also create new employment opportunities for the locals and generate income for the town through rates and taxes.

3.2 Location

The proposed development site is strategically located along the main road to Onhuno-Okongo (C45) and is located at least more than 2 km radius from the existing fuel retail stations. The road is frequent by short and long-distance travelers and commuters traveling to nearby villages and further eastern part of Ohangwena region and to Kavango East region as well to neighboring countries through Katwitwi border post.

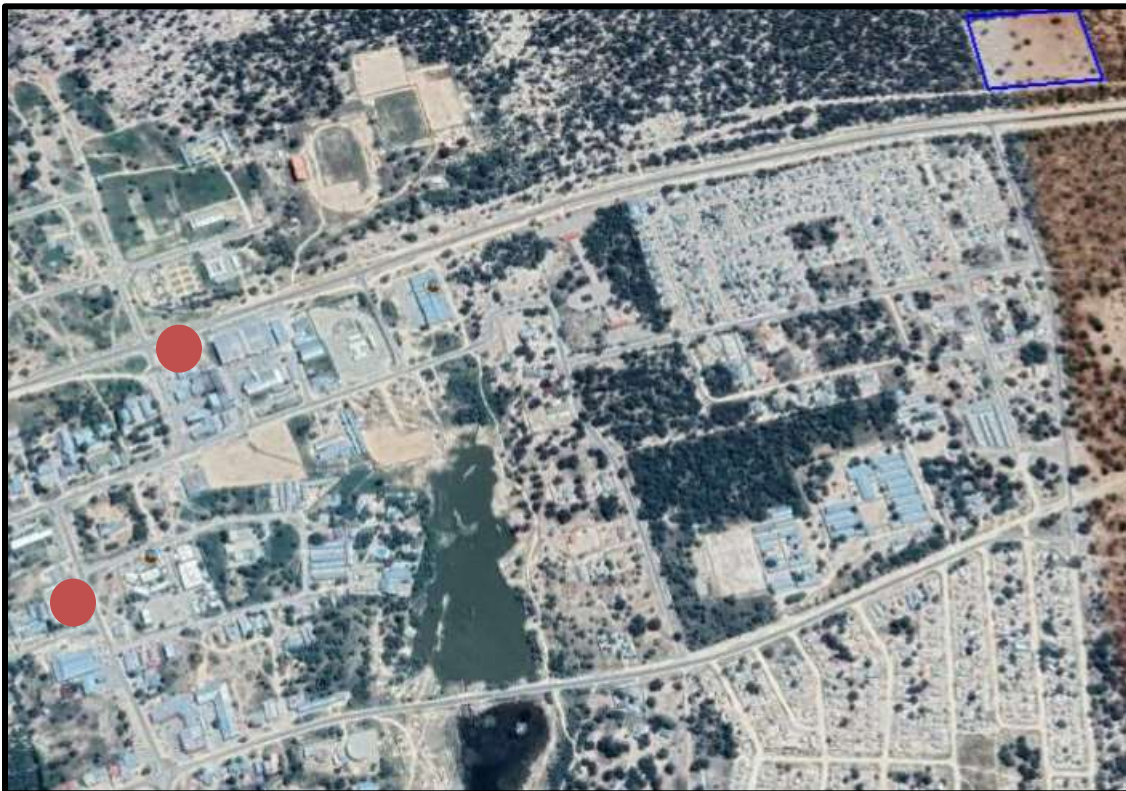


Figure 5: Locality comparison

4. DESCRIPTION OF THE RECEIVING ENVIRONMENT

4.1 Socio-economic profile

- **About area**

Eenhana town is a town located in Ohangwena region and is the administrative capital town of the region. The region is bordered by the Kavango region to the east, Oshikoto and Oshana Regions to the south and Omusati Region to the west. The region is divided into 11 constituencies, Eenhana, Endola, Engela, Epembe, Ohangwena, Okongo, Omundaungilo, Ondobe, Ongenga, Oshikango and Omulonga.

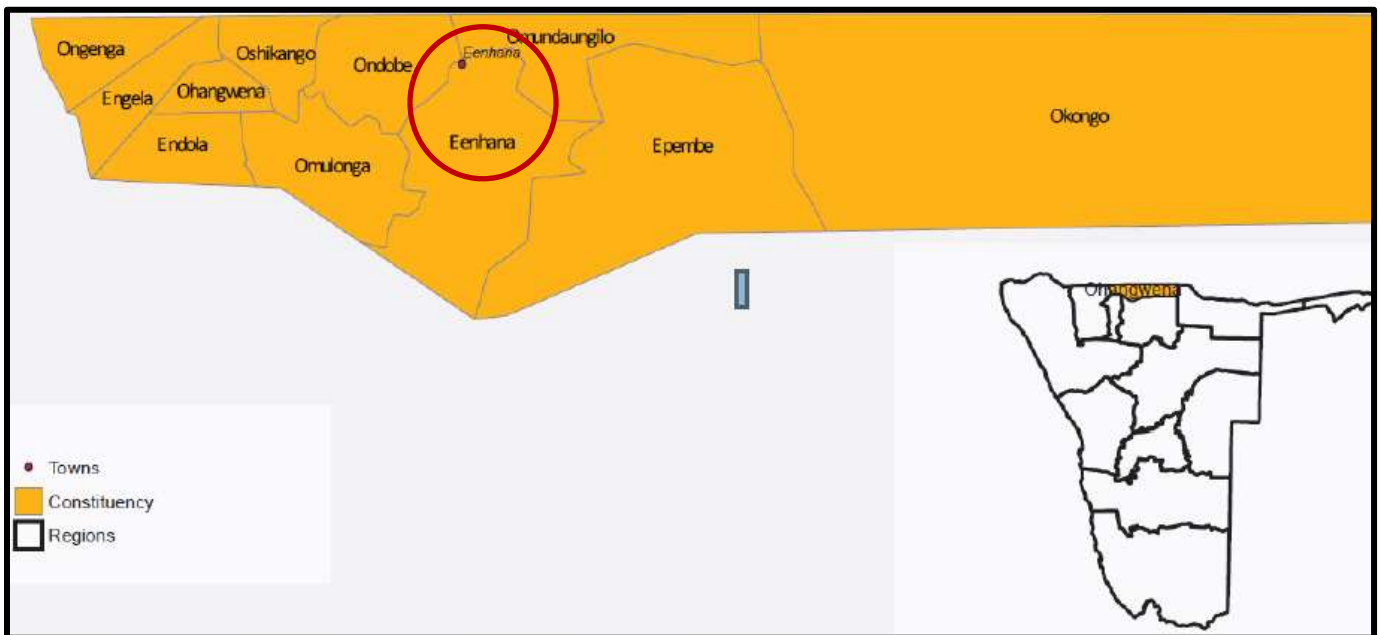


Figure 6: Overview of Ohangwena region

The name Eenhana comes from the word calves in Oshikwanyama and is a reference to the calves that used to water at the small water pan where the town is now located. The Eenhana town is surrounded by communal land where land use is mainly for communal farming which involves farming with domestic animals such as Goats, Cattle and Donkeys and cultivating Omahangu crops.

- **Demographics**

According to NSA (2011), the population of Ohangwena Region is estimated at about 245,100, with a population density of more than 11 persons per km² while the town of Eenhana had an urban population of about 5528 inhabitants.

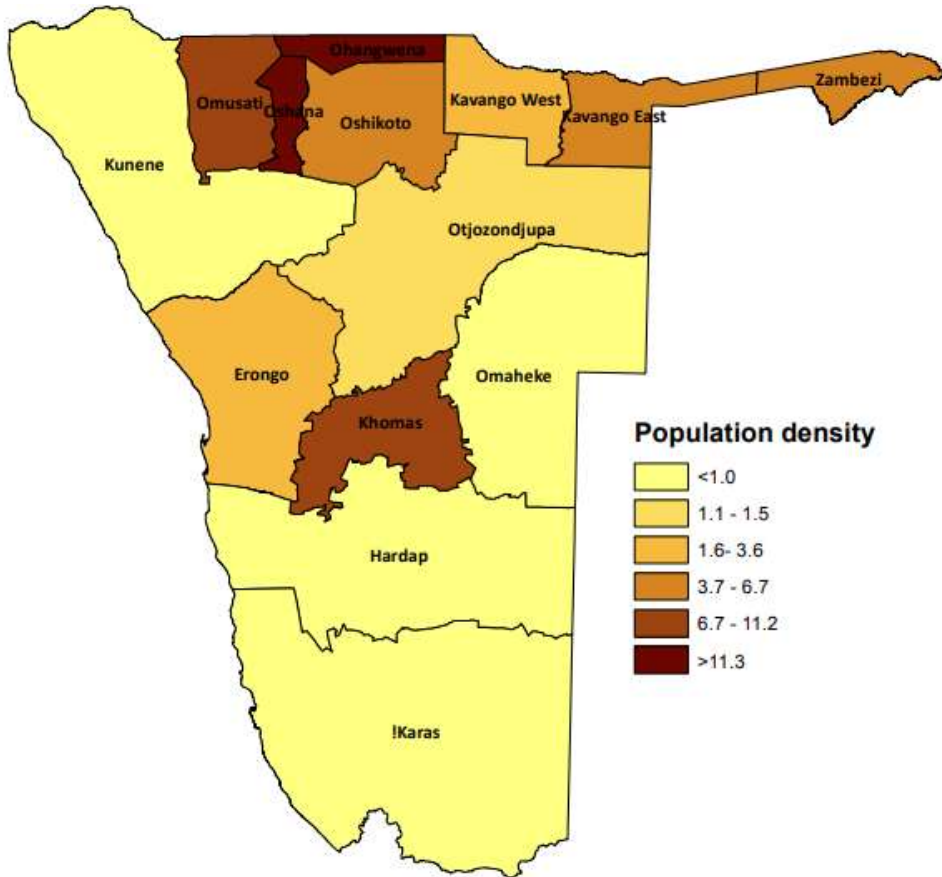


Figure 7: Population density of Namibia

- **Social and economic development**

Being the capital town of Ohangwena, several government and public institutions have opened their regional office headquarters in town. The town is well connected to the road network and serves as a gateway to the north-east regions and to the neighboring countries. Hence tourists and passersby contribute to the business prosperity in town.



Figure 8: Eenhana town and surrounding

The town is well served with all kinds of businesses from small-scale dealers to large scale retailers. The Town is also served by most known retail brands operating within town, such as Shoprite U-Save, Style, Woernman brock etc. There are also many other local brands operating, offering a good shopping ambiance, especially craft, baskets unique to the town and surrounding villages.

In terms of education, there are two primary schools, one secondary school, a vocational training centers and a number of small training colleges and education inspectorate office. In terms of health, the town is also served with a district hospital, a clinic, NIP laboratory, pharmacies, and General Practitioner (Private Doctor).

4.2 Biophysical

- **Climate**

The prevailing climate in the Eenhana area is classified as a local steppe climate, classified as hot semi-arid climate (BS_h) by Köppen and Geiger (1954, 1961). The temperature condition is mainly hot for most part of the year, with an average maximum temperature ranging between 24 °C-36 °C during summer. While during winter, the temperature is mainly cold ranging between 7 °C - 21°C. October is the hottest month while June/July is normally the coldest month.

- **Topography**

Ohangwena is situated on a flat plain and extends east to west along the Angolan border. The area has a flat topography with drainage highly influenced by the Cuvelai-Etosa-Basin (CEB). Its drainages are made up of networks of shallow watercourses locally known as iishanas.

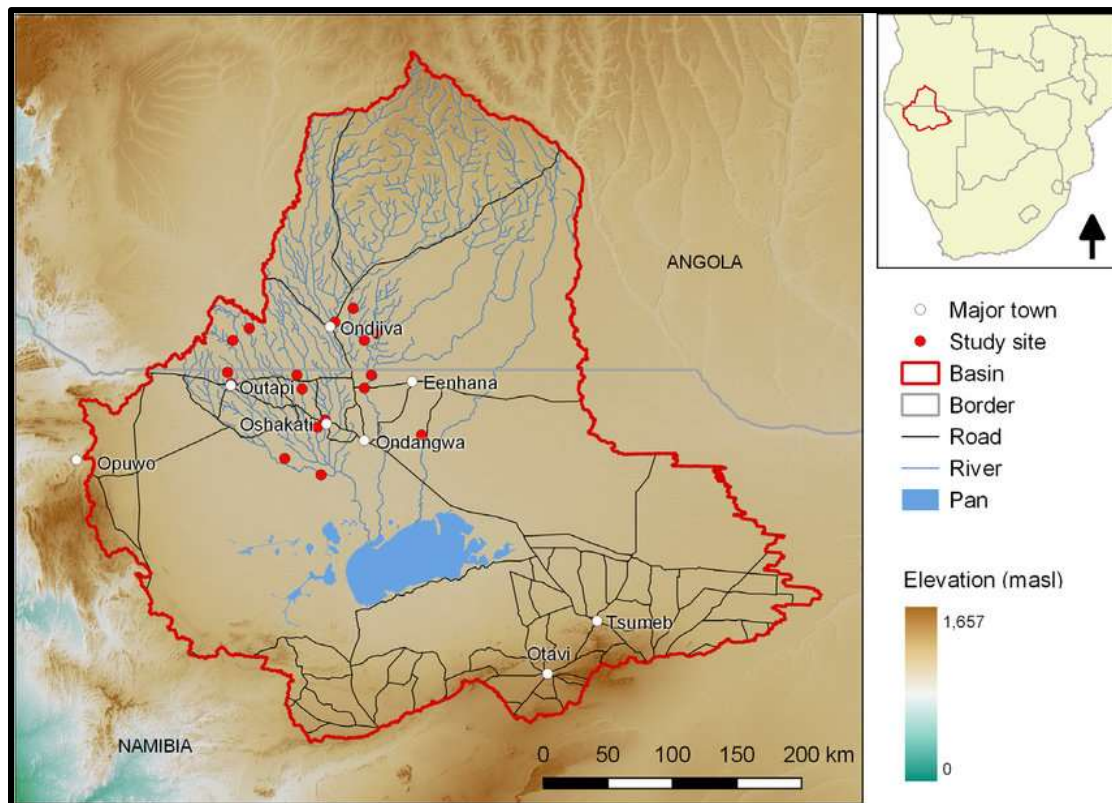


Figure 9: Topographic features of the CEB

These iishanas are recharged by floodwater from Angola during times of high rainfall or filled by rain that occur in the region. Drainage is particularly influenced by the Niipele-Odila SubBasin which forms the eastern part of the Ohangwena Region and the northeastern part of the Oshikoto Region. Drainage flow is in the south-western direction towards the Etosha Pan.

- **Surface water drainage**

The Cuvelai-Etосha-Basin for the past 70 million years has been filling up with sand, silt and clay washed and blown in from the higher ground. Some rivers such as Okavango River of the Kalahari Group are still active today, while some drainages are formed up by intermittent flow of water such as the Cuvelai drainage system. The surface basin is underlain by the Ohangwena Kalahari Aquifer, which is the main source for sustainable water supply in the region. Ground in the region is normally found 10m below the ground. There are no bulk water schemes such as the network of canals and pipelines that supply water originating from the Calueque Dam in Angola to Omusati and Oshana.

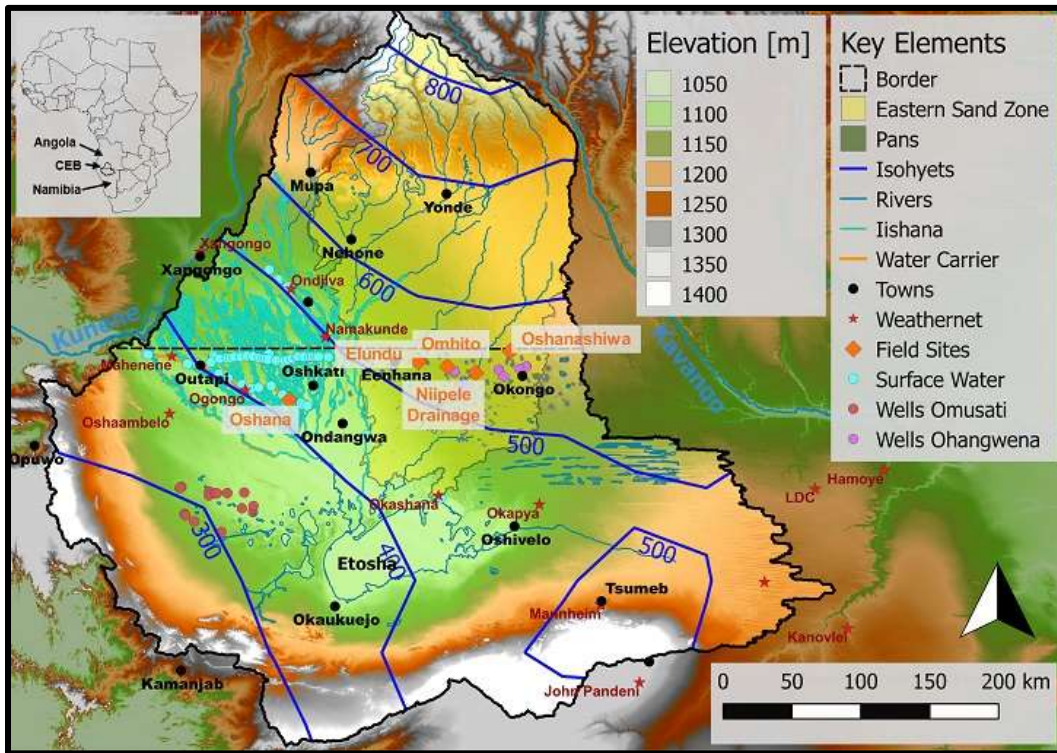


Figure 10: Drainage system of CEB

Ground water is the main source of water supply in the region. Surface water in the area is found in the lishanas during rainfall season and the end of the rainfall season, water is found in natural ponds (Omadhiya). Surface water that normally last between rainfalls seasons are found in manmade lakes (Marsh, A., & Seely, M. (1992).

- **Flood risk assessment of the area**

The Ohangwena region is affected seriously by floods, especially in the western part of the territory, due to the presence of many iishanas associated to the Cuvelai basin. The Eenhana area is part of the Central area of the region, hence the flood risk is considered a moderate risk zone.

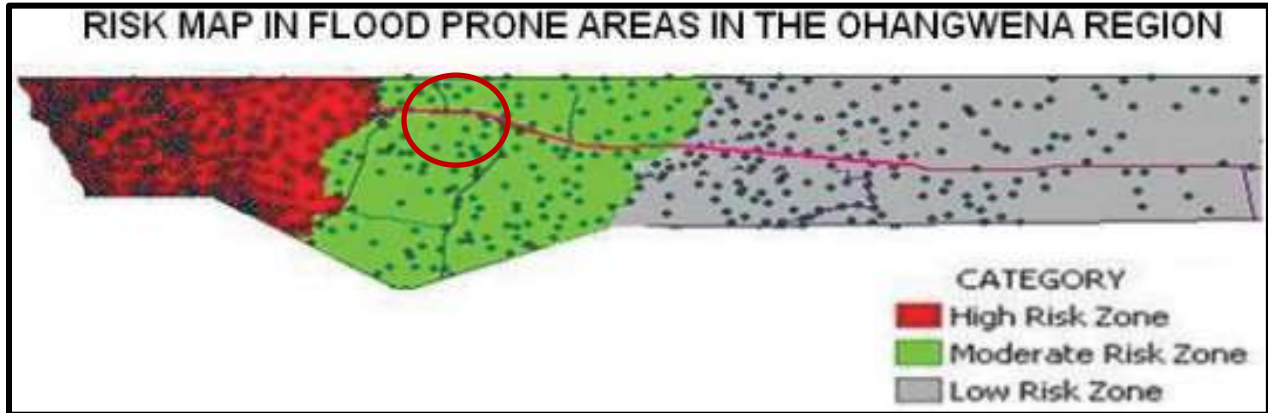


Figure 11: Flood risk of the Ohangwena region

- **Soil**

Namibia's northern part, commonly known as the "Cuvelai-Etoshia-Basin" is formed by sand deposit from water borne deposit millions of years ago. These deposit of sand and water borne deposits formed the Kalahari Basin. The deposits of sands, clay and calcretes makes up the Kalahari Group. Eenhana is part of an extensive sedimentary basin which is part of the much larger Kalahari Basin covering parts of Angola, Namibia, Zambia, Botswana, and South Africa. The Eenhana area falls in the Kalahari Sequence which ranges from late Cretaceous to Quaternary and is entirely continental, ranging from aeolian to fluvial. The fluvial sedimentation dominates, with some reworking of aeolian sand. The area is characterized by the Oshana-Multi layered aquifer.

- **Geology**

The northern central regions are underlain by tertiary to quaternary aged sediments, belonging to the Kalahari supergroup (Miller, 2008). The local geology comprises of clayey silts, sands and occasional gravel underlain by moderate to well cemented silcrete and calcrete. The Kalahari Group in the NCA varies in depth between 225m to 500m in vertical thickness and covers extensively the north central until the north-eastern Namibia.

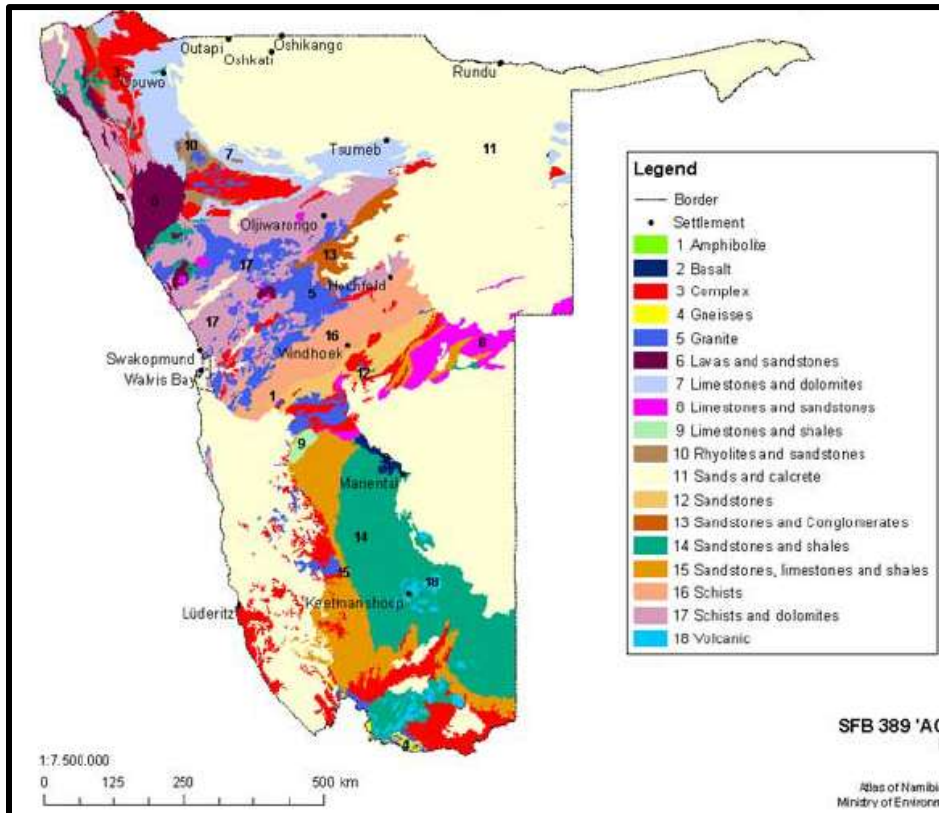


Figure 12: Geological map of Namibia

- **Flora**

Eenhana Town is in the middle of the North-eastern Kalahari Woodland which is composed of broadleaved trees and shrubland. The vegetation of the proposed development site is characterized by thick woodland consisting of tall trees, shrubs, and grass species. The most dominant tree species found in the project area are *Burkea Africana*, *Terminalia* species, *Combretum* species and a few *Acacia erioloba*, whereas the local occurring grass species consist mainly of sub-climax species such as *Panicum maximum*, *Digitaria sericia*, *Brachiaria*, *Eragrostis* species etc.



Figure 13: Local occurring vegetation

- **Fauna**

In terms of fauna, the proposed development site falls within townlands and no wildlife was observed nor expected to occur. Wildlife naturally relocates further as soon as human activities are introduced in pristine areas. Due to subsistence farming activities surrounding Eenhana Town, livestock have been observed grazing in the surrounding areas. Birds and reptiles are also known to be abundant in the area.

5. LEGAL REQUIREMENTS AND FRAMEWORK

This section provides a review of applicable and relevant Namibian legislation, policies and guidelines regarding the environment which was considered while conducting the EIA for the proposed project.

5.1 Environmental Management requirements

The proposed project will trigger activities in the Environmental Management Act 07 of 2007 as follow.

Table 1: Listed activities

Proposed project activities	Activities triggered	
	Category	Specific activity
Subdivision of land	5. Land Use and Development Activities	Subdivision and zoning
Construction of fuel retail station	No. 9 Hazardous Substance Treatment, Handling and Storage	9.5 Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas, or paraffin.
Access road	10.2 The route determination of roads and design of associated physical infrastructure where -	(a) It is a public road;
Truck port	10. Infrastructure	10.1 The construction of (ii) Trucks;

5.2 Authorization and permits requirements.

The following are authorizations and permits required for the construction and operation of the proposed project.

Table 2: Authorization requirements

Proposed project activities	Activities triggered		
	Requirement	Authority	Status
Subdivision	• Approval from the Local Authority	Eenhana Town Council	Obtained
	• Approval from	MURD – URPB	ECC is required
Construction of fuel retail station	• Fuel retail licence –	Ministry of Mines and Energy (MME)	Pending (to be submitted at later stage)
Access road to the facility	• Servitude	Roads Authority (RA)	Pending
Service lines across the main road through Horizontal drilling	• Permission to interference with the road reserve.	RA	Pending
Truck port and supporting facilities	• Local Authority Fitness	Eenhana Town Council (ETC)	Pending
Others	• Lifting of the overhead clearance	NORED	Submitted

5.3 Applicable legislations.

To protect the environment and ensure that the development is undertaken in an environmentally responsible manner, there are several environmental legislations that need to be considered. The following are the applicable legislations governing the construction and operation of the proposed project activities.

Table 3: Namibian Legislation relevant to the project

LEGISLATION	PROVISION	PROJECT IMPLICATION
Constitution of the Republic of Namibia (1990)	The articles 91 (c) and 95 (i) commits the state to actively promote and sustain environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include: <ul style="list-style-type: none"> - Guarding against overutilization of biological natural resources, - Limiting over-exploitation of non-renewable resources, - Ensuring ecosystem functionality, - Maintain biological diversity. 	Through implementation of the environment management plan, the proponent shall be advocating for sound environmental management as set out in the Constitution.
Environmental Management Act No. 07 of 2007 and its Regulations (2012)	The purpose of this Act is 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; to provide for a process of assessment and control of projects which may have significant effects on the environment; and to provide for incidental matters. The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedure for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about the proposed project.	An Environmental Impact Assessment is compulsory for listed activities. “The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.” “The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.” “Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas or paraffin.”
Townships and Division of Land Ordinance 11 of 1963, as amended	The objective of this Ordinance is to consolidate and amend the laws relating to the establishment of townships and to provide for the regulation and control of the development and subdivision of land and for matters incidental thereto.	Town Planning procedures will be applied which include subdivision and rezoning of the land to the appropriate use before commencement of the envisaged development.

<p>Urban and Regional Planning Act 2018 as amended</p>	<p>The objectives is to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralize certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration, suspension and deletion of conditions relating to land; and to provide for incidental matters.</p>	<p>Consent has been obtained from the Local Authority (Eenhana Town Council). Final approval will be obtained from the URPB under the MURD.</p>
<p>Land Survey Act 33 of 1993</p>	<p>To regulate the survey of land; and to provide for matters incidental thereto.</p>	<p>The proponent must appoint a Registered land Surveyor to survey the Erf after which the title deed must be registered with the Deeds office.</p>
<p>Eenhana Town Planning Scheme</p>	<p>The general purpose of the scheme is to guide, coordinate and control physical development within the borders of the Eenhana Town. The scheme will tend to promote the health, safety, order, amenity, transport, welfare, efficiency, and economy of land use in the Town and Townlands of Eenhana.</p>	<p>Since the proposed zone is "Business", the following conditions applies</p> <p>b). Parking areas shall be constructed to the satisfaction of the council.</p> <p>c). Parking areas shall be used exclusively for parking and not for trading of any kind.</p> <p>d). A plan indicating the access exit and parking shall be submitted to council for approval before building plans in this zone will be approved. The council may approve or reject it or lay down any conditions deemed necessary by it.</p>

		<p>f). If a service station or public garage is erected on a business erf the coverage will be limited to 50% and the floor factor to 1.0. A development plan for such development is to be submitted to council for approval before the building plans will be considered. Access to and from an erf used for a service station will be placed at least 30 meters from any street/road corner or intersection.</p> <p>h). Entrances to and from service stations or public garages will be limited to two with a maximum width of 6m each.</p>
Water Act 54 of 1956	<p>The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force:</p> <ul style="list-style-type: none"> • Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duty of care to prevent pollution (S3 (k)). • Provides for control and protection of groundwater (S66 (1), (d (ii)). <p>Liability of clean-up costs after closure/abandonment of an activity (S3 (l)).</p>	<p>The protection of ground and surface water resources should be a priority. The main threats will most likely be concrete and hydrocarbon spills during construction and hydrocarbon spills during operation and maintenance.</p>
Pollution Control and Waste Management Bill	<p>This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. This Bill will license discharge into watercourses and emissions into the air.</p>	<p>All activities shall be conducted within the framework of this Bill</p>
Petroleum Products and Energy Act No. 13 of 1990 and its Regulations	<p>The Act aims to: provide measures for the saving of petroleum products and an economy in the cost of the distribution thereof, and for the maintenance of a</p>	<p>All activities should adhere to the SANS or equivalents for construction, operation and</p>

	price therefor; for control of the furnishing of certain information regarding petroleum products; and for the rendering of services of a particular kind, or services of a particular standard, in connection with motor vehicles; for the establishment of the National Energy Fund and for the utilization thereof; for the establishment of the National Energy Council and the functions thereof; for the imposition of levies on fuel; and to provide for matters incidental thereto.	decommissioning of the fuel retail facilities. A Retail License will be obtained prior to the establishment of the facility.
Hazardous Substances Ordinance (No. 14 of 1974)	Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export. Aims to prevent hazardous substances from causing injury, ill-health, or the death of human beings.	The Proponent shall control the manufacturing, used or disposal of hazardous waste as per this Ordinance.
Soil Conservation Act 76 of 1969	Prevention and combating of soil erosion, conservation, improvement, and manner of use of soil and vegetation, and protection of water sources.	Removal of vegetation cover is to be avoided and minimized at all costs.
National Heritage Act 27 of 2004	The Act provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	Any material of cultural, heritage or archaeological importance shall be reported in accordance with this Act
Labour Act (No 11 of 2007)	135 (f): “the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery in connection with the structure of such buildings of otherwise in order to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;” (Ministry of Labour and Employment Creation)	Contractors, Sub-contractor shall be guided by this Act when recruiting or handling employment related issues

<p>Noise Control Regulations (Labour Act)</p>	<p>It is essential to ensure that before any development project is approved and undertaken, an assessment or evaluation of expected noise level is done.</p>	<p>Noise generation should be minimized to the satisfactory of neighboring residents</p>
<p>Public and Environmental Health, 2015</p>	<p>Provides a framework for a structured more uniform public and environmental health system, and for incidental matters</p> <p>Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation.</p>	<p>The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.</p>
<p>Atmospheric Pollution Prevention Ordinance No. 11 of 1976</p>	<p>Governs the control of noxious or offensive gases.</p> <p>Prohibits scheduled process without a registration certificate in a controlled area. Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.</p>	<p>According to the Ordinance, the Local Authority shall control and prevent atmospheric air pollution or emission of noxious or offensive gases by smoke.</p>
<p>South African National Standards (SANS)</p>	<p>The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and decommissioning of petroleum facilities.</p> <p>SANS 10089-3:2010 is specifically aimed at storage and distribution of petroleum products at fuel retail facilities and related structures.</p> <p>Provide requirements for spill control. Infrastructure amongst other specifications.</p>	<p>The Proponent should adhere to the SANS throughout the phases of the retail fuel facility.</p>

6. PUBLIC PARTICIPATION PROCESS

Consultation with the public forms an integral component of an environmental assessment investigation and enables Interested and Affected Parties (I&APs) to comment on the potential environmental impacts associated with the proposed development and to identify additional issues which they feel should be addressed.

6.1 Notifications

The scoping and EIA process of the project was advertised in two separate local newspapers; New Era for the 28 May and 04 June 2021 and Confidante for 27 May and 03 June 2021 (refer to Annexure B). Several public notices were also displayed at various public notice boards within the Eenhana town and at the venue. The public advertisements provided brief information about the proposed project and the EIA process, as well as an invitation for registration and an invitation to the public meeting.



Figure 14: EIA Public notice

6.2 Background Information Document (BID)

The background information document was compiled in English and distributed to all registered I&APs and stakeholders. The BID provided a brief introduction of the proposed project, the assessment process, and the public consultation process to be followed.

6.3 Public meeting

The public meeting was held on the 07th of June 2021 at the Monte Carlo Guest House in Eenhana. During the meeting, the EAP introduced the project to the attendees and gave them opportunity to ask questions and make comments. The meeting was attended by various stakeholders from Eenhana. After the meeting, the attendees were also taken to the site inspection for further deliberations.



Figure 15: Site meeting with the meeting stakeholders

6.4 Summary of issues from public participation

Below is the summary of issues raised during the public consultations process as explained above.

Table 4: Summary of issues from consultations

Issues raised	Remarks
<p>Regarding the access to the site, the proponent should register a servitude with RA, if access is to be obtained directly from the main road.</p> <p>A shoulder road should also be constructed at the intersection to enable free flow of traffic on the main road (On the Proponent's expenses).</p>	<p>Servitude to be applied for</p>
<p>The development should observe road reserves as follow.</p> <ul style="list-style-type: none"> • 45m from the center of the road to the main building • 30m from the center of the road to the boundary wall/fence. 	<p>The site proximity already conforms to these restrictions.</p>
<p>The development should observe reserves for NORED at least 8m from powerlines.</p>	<p>The site is already more than 8 meters from the Powerline</p>
<p>Horizontal drilling should be used in case of service line crossing the main road.</p>	<p>Application for horizontal drilling to be obtained from RA</p>
<p>The proponent should make a formal request to NORED to lift-up the powerline clearance from 11m to high for safety reasons.</p> <p>The request should be submitted together with the proposed layout and Building plan.</p>	<p>NORED has been informed (informally) but a formal request will be submitted once the layout and Building plans are ready.</p>
<p>The proponent may request the Town Council to clear the road reserves for the vegetation or may consider doing themselves to keep the site neat.</p>	<p>Noted</p>

7. ANALYSIS OF PROJECT ALTERNATIVES

The EIA Regulations stipulates that the Scoping process should investigate alternative development options to any proposed development. Alternatives to the project, including the no action alternative will be presented in this section, as well as the historical use of the overall area in which the project site is located. These alternatives will be discussed from environmental and socio-economic perspectives.

6.1 No Action

On one hand, the No Action Alternative in respect to the proposed project implies that no subdivision nor development will take place and the site will remain under-utilized or neglected. This option is most suitable alternative from an extreme environmental perspective as it ensures non-interference with the existing conditions. However, the proposed development site is within the natural expansion of the town. Hence, this option will involve several losses both to the project proponent, the community at large and the Local Authority as follows.

- The economic benefits especially during construction i.e., provision of jobs for skilled and non-skilled workers will not be realized.
- There will be no generation of income by the developer.
- The local skills would remain underutilized.
- No employment opportunities will be created for local people who will work in the project area after completion.
- Discouragement for investors to invest in oil industry.

On the other hand, the No Action option alternative may describe a situation where the proposed development fails to be implemented. In case this happens, positive impacts associated with the proposed development will not accrue to the stakeholders including the occupants to be, the development consultants, contractors, and suppliers of materials. However, from an environmental conservation perspective, this alternative will be beneficial in the sense that any potential negative impacts associated with the project report will be avoided.

From the analysis above, it becomes apparent that the “No Action Alternative” should not be adopted, as we need to encourage development so long as it is undertaken on a sustainable basis as per the environmental management plan developed in this report.

6.2 Alternative site

This option will mean considering for an alternative development site instead of the chosen one. This option is normally viable in cases where the proposed development is not suitable or when the environmental integrity of the proposed development site is likely to be compromised.

In this case, the proposed development site is considered ideal for the intended development and establishing the proposed development will not compromise the environmental priority of the area. Moreover, looking for another land to accommodate the scale and size of the project and completing official transaction on it may take a long period. In addition, it is not a guarantee that such land would be available. It is also worth noting that the said project is already underway in terms of seeking development approvals in various government departments.

The project proponent would spend another long period of time on design and approvals of the plans by the relevant government departments. The project design and planning before the stage of implementation would call for cost; already incurred in the proposed development i.e., whatever has been done and paid to date would be counted as a loss to the proponent. Assuming the project will be given a positive response (after (say) relocation) by the relevant Authorities including MEFT, it (project) would have been delayed for a long period before implementation. This would also lead to a situation like No Action Alternative (as explained above). In consideration of the above concerns and assessment of the current proposed site, relocation is not a viable option.

8. ENVIRONMENTAL IMPACTS IDENTIFIED

This section provides a brief description of the most important impacts (both positive and negative) identified during planning & design, construction, operation, and decommissioning phase of the project.

8.1 Planning and Design Phase

The first step in avoiding and preventing any possible negative impacts associated with any project should start with the planning and designing phase. The following issues should be considered at the planning and design phase:

a). Access to the site

The proposed development lies along the main road from Onhuno to Okongo (C45), hence access to the site is of paramount importance. Lack of proper access road to the site will pose serious traffic impacts to the traffics suing the main roads. Traffic impacts will be more critical during the operation phase. The proponent is contemplating on two access points.



Figure 16: proposed access points

Option A; Access direct from C45 road to the property

Measures

- ✓ Access point should be 500 m from existing servitudes
- ✓ Register servitude and obtain approval from RA
- ✓ Create additional lanes on both sides to allow turning vehicles to exist/enter freely
- ✓ Road marking indicating traffic flow
- ✓ Speed humps on both directions to slow down traffic approaching this point
- ✓ Traffic signs depicting traffic flow

Option B: Access from the proposed road (street) providing access to the future Eenhana extension 2, west of the proposed development site.

Measures

- ✓ Ensure the access road is wide enough to accommodate heavy trucks and normal traffic
- ✓ Erect road signs to give guidance to customers/delivery trucks
- ✓ Ensure road markings and stop signs

Both entrances options are viable provide that the proposed measures are implemented.

b). Distance from main road and powerline ‘

The proponent must ensure to observe road reserve from the main road and from the NORED powerline as follow

- ✓ 30m from centre of the road to Boundary wall
- ✓ 45m from centre of the road to main building
- ✓ 8m from the powerline
- ✓ More than 11m height clearance from existing powerline

c). Connection to municipal services

Although the site is within the Townlands, it is located on the undeveloped area where there are no municipal services. The planning of the proposed development seems to be at advanced stages contrary to the land servicing of the surrounding area. As such, the development will be connected to the nearest municipal services which are located across the main road. As such, the proponent will have to ensure a horizontal drilling for sleeves to create penetration for service lines crossing over the main road contrary to breaking the road. Permission must also be obtained from RA before the commencement of any work.

8.2 Potential impacts during construction phase

The construction of the proposed facility is associated with certain environmental and socio-economic impacts. As explained below, most of the identified impacts are temporary and can be significantly mitigated by implementing the identified measures and best management practices.

- **Land use change**

The proposed development site is currently undetermined and vacant. As such the site is considered a pristine environment. Hence, the proposed development will change this status to a built-up environment.

However, the site is located within the Townlands and within the natural expansion of the town. Hence, the proposed development is consistent with the land use plan of the town and will not compromise the environmental integrity of the surrounding environment. Moreover, the land use impacts will be limited to the development site and not be extended to the surrounding environment.

- **Vegetation clearance**

As indicated in previous sections, the site has already been cleared of natural vegetation to pave way for the proposed development. However, some trees some large trees were left and will be integrated in the project design as part of greenery and to improve aesthetic view of the site.

- **Dust, noise, and vibration**

Excavation and construction-related activities will generate dust, noise, and vibration which might be considered a nuisance, reduce aesthetic appearance, and may cause air pollution.

The proponent must ensure that dust control measures such as sprinkling of haulage roads and construction areas with water and reduce the number and movement of heavy trucks on site. Construction activities must be limited to normal working hours and avoid operating during odd hours and employees should be provided with appropriate protective equipment.

- **Soil disturbances**

The construction activities such as excavation (about 8ft deep for tanks) and leveling off the ground often result in disturbance of the soil profile and the associated microbial communities. However, the flat slope of the land implies that not much leveling will be needed and much soil will be used to cover the tanks and in landscaping activities, thus reduced soil disturbances.

- **Soil contamination and pollution**

Soil contamination during construction phase may occur because of spills and leakages of different lubricants from construction vehicles.

To avoid such impacts, the contractor must ensure a good maintenance of vehicles and all contaminated soil must be removed and dumped at the Eenhana waste disposal site.

- **Traffic disturbance**

Traffic disturbance and interferences, especially on the man road may occur because of construction vehicle moving in and out of the construction site.

To minimize such as impact, vehicles must be driven by authorized drivers at the authorized speed limit. Construction signs must also be erected at the access point to the construction site.

- **Waste generation**

Different types of solid waste will be generated during construction phase such as waste rock, building rubble and general waste (litters) i.e., paper, plastic cans, bottles, etc. Temporary construction camps can also result in generation of liquid waste from ablution facility, showers, and kitchen.

Soil generated during construction can be used for refilling trenches, leveling, and landscaping. Other general solid waste generated should be collected and disposed collectedly at the nearest municipal waste disposal site. Provide waste collection bins for the premises and ensure regular collection of waste.

- **Health and safety risks**

Health and safety impacts that may arise during the construction phase are those related to spread of HIV/AIDs and STDI because of migration of people from other parts of the country in search for employment as well as occupational health and safety of employees at the construction site.

The proposed development is not expected to attract many people from elsewhere, as local people are likely to be employed. Employees will be provided with PPE during construction works.

8.3 Potential impacts during operation phase

The operation phase will also generate several negative impacts because of poor management or lack of observing operational and maintenance standard procedures.

- **Soil contamination and pollution**

Spillage of hydrocarbons is a major environmental concern and may have significant adverse impacts if adequate spill control structures are not in place. When a release of hydrocarbon products takes place to the soil, the Light Non-Aqueous Phase Liquids (LNAPL) will infiltrate into the soil and start to migrate vertically. Mechanisms that influence transport include the physicochemical properties of the specific compounds present such as density, vapour pressure, viscosity, and hydrophobicity, as well as the physical and chemical properties of the subsurface environment, including geology and hydrogeology. Hydrocarbon liquids are typically complex mixtures composed of numerous compounds, each with its own individual physicochemical and, therefore, transport properties. Hydrocarbon products do biodegrade in the subsurface, although the effectiveness of this process depends on subsurface conditions. The type of hydrocarbon product plays a further role in the duration of biodegradation, with the longer chain components taking much longer to biodegrade.

To prevent, avoid or lessen the possible contamination of soil from spillages of oil and lubricants during operation phase, the following measures must be ensured

- The surface area around the site must be impervious by means of paving or concrete cast
- Provide a bunding wall or spill containment system (SCS), to contain spillages and leaks of environmentally hazardous materials/liquids to minimize the risk of pollution, and to reduce the risk of injury and damage to property.

- **Groundwater contamination**

Leaking petroleum tanks can be a source of soil and underground water contamination. Petroleum-based fuels contain toxic compounds including benzene, toluene, and xylene and ethylene dibromide. These compounds are believed to cause cancer and pose a number of other health risks including nervous system damage, reproductive problems, and immune system depression. Thus, pollution of soil and underground water are prohibited in Namibia. Below is a typical example of how groundwater contamination from a fuel station can occur.

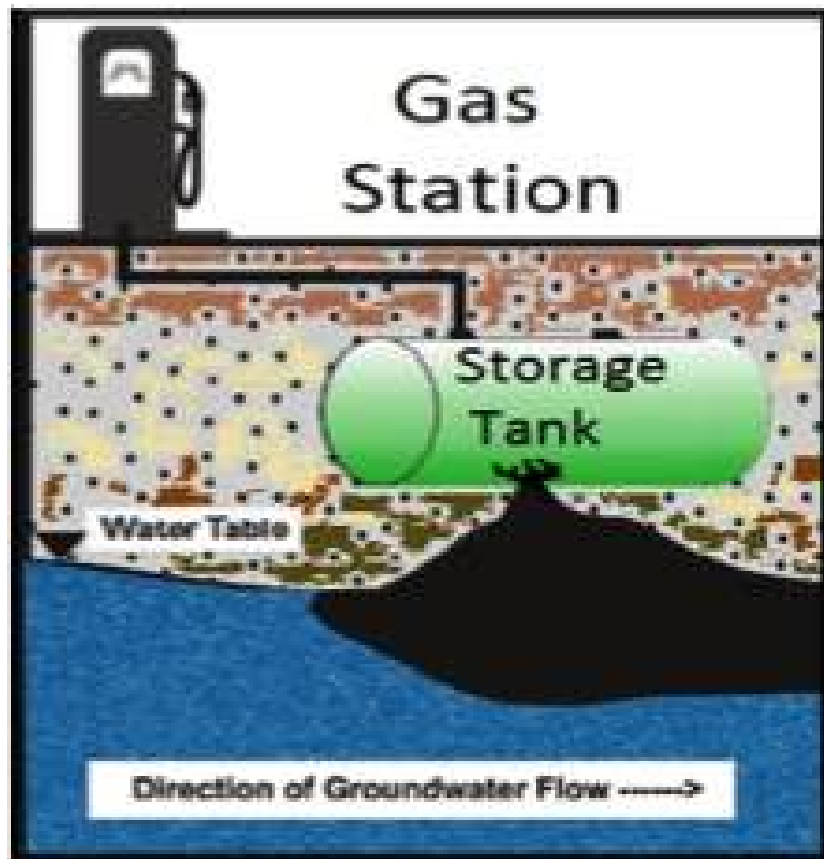


Figure 17: Example of groundwater pollution from a fuel station

Dealing with the hydrocarbons that are to be kept and handled onsite, product spillage remains a reality that the proponent should be aware of and should take responsibility for in accordance with provisions of the Petroleum Products Regulations (2000) with special reference to Section 49: Petroleum Product Spills. The station will have an impervious surface thus reducing water infiltration into the ground. The amount of runoff will increase slightly due to lowered infiltration of rainwater into the soil.

- **Contamination of surface water and drainage**

Spills and overfills can contaminate nearby surface waters. Depending on the types of material used for construction and flooring, leakage and spill of chemicals can find its way into drainage or directly into the soil. This could easily pollute the natural water springs and the underground water sources. Less visible, but equally a threat to surface waters, is petroleum that seeps down to the water table and then travels horizontally underground into a nearby stream.

No source of water body is close to the project vicinity/site. However, in the event of product spillage, the person in control of activities must take such steps as may be necessary in accordance with good petroleum industry practices to clean up such a spill. The design should ensure that all water from service area and other section of the station where spills are anticipated passes through properly constructed oil interceptor.

- **Noise pollution**

Some noise will exist due to heavy and light motor vehicles accessing the site for delivering and refueling. Trucks passing or moving into a specific place at intervals may exert little influence on average noise levels over a time, but the effects on community health produced by the peaks that they create in the noise level are significant.

The offloading of fuel should be done during daytime. The facility must adhere to World Health Standards in terms of noise management as specified in the EMP.

- **Traffic disturbance**

During operations, some traffic impacts can be experienced in the vicinity of the fuel retail facility especially where vehicles gain access from and to the facility. Traffic flow may be impacted by delivery truck bringing fuel to the site.

The impact can be mitigated by erecting construction signage during construction phase. Vehicles must be driven by authorized drivers only and adhere to the speed limit. During operation phase, ensure ample parking for customers and provide acceleration and deceleration lanes from the main road.

- **Waste generation**

Operational activities will result in generation of different types of waste which include mainly general household waste such as food waste, litters, empty containers as well as wastewater from the kitchen and ablution facility. If not properly handled, such waste may pose contamination to the environment. Moreover fat, oil, and grease (FOG) and lubricants may find its way into the sewage system which might affect the functioning of municipal sewer system and the wastewater treatment plant.

To minimize these impacts the kitchen should be provided with FOG trap and no international dumping FOG into the sewer system. Used oil and lubricants should be handled as hazardous substance and should be disposed of at Walvis Bay or Windhoek landfill sites. General waste should be collected regularly and disposed of at the Eenhana disposal site.

- **Health and safety risks**

Hydrocarbons are carcinogenic and dermal contact and inhalation of fumes should be prevented. The storage of fuel may pose several health risks such as fire/explosion, environmental damage, health effects when handled by individuals. Toxicity occurs following ingestion, inhalation & skin absorption, possible carcinogen, irritating to eyes and skin, aspiration may cause serious lung injury.

All dispensing or transferring of fuel will be done by the employees for the duration of the operation. The attendant must be aware of proper fuel handling procedures to minimize the risk of a spill and shall continuously scan the area adjacent to the fueling operation for possible leaks or spills. The attendant must know all the procedures to be followed when dispensing fuel to avoid risks that may affect their health.

- **Fire outbreak**

Unleaded petrol is extremely flammable and if not handled according to Material Safety Data Sheet instructions and SANS requirements, a fire outbreak may occur. To minimise these impacts the following measures must be implemented. Moreover, a holistic approach outlined in the EMP should be used in case of fire outbreak.

- Avoid naked fires (post notices to prohibit smoking within the station)
- The facility should be kept clean and free from fire hazards and litter.
- Install fire control appliances (portable fire extinguisher, both CO₂, dry powder and water type, and sand buckets)
- Employees should be adequately instructed periodically in the use of the various fire appliances.
- Electrical installation be carried out by a competent and licensed electrician.
- Conduct regular fire drills- once a year Regular repair and maintenance program for all equipment Implement leakage detection mechanism.
- Gas cylinders (if the station will sell LPG) should be kept in an open area (not inside a building) and conduct daily leakage checks.
- Observe safety measures e.g., use of mobile phones, avoid smoking within the station etc.
- Designate an Emergency Assemble point

8.4 Positive Impacts

The construction and operations of the fuel retail facility is associated with several positive impacts to the proponent, residents, the town and surrounding.

- **Employment creation**

The construction phase will create several temporary employment opportunities in the town, especially to the unemployed youth of the town and surrounding villages. The operation phase will create certain permanent job opportunity for the locals and some training and skills development may also take place.

- **Business prosperity**

Construction phase will present local businesses with a great opportunity through construction opportunities as well as for supply and delivery of construction materials, sub-contracts, and secondary business opportunities.

- **Social and economic development**

As noted earlier in this report, energy plays a pivotal role in economic growth and development. The establishment of a filling station in this area will serve to improve accessibility of petroleum products to area residents and motorists thus boosting the economy.

- **Income generation**

The operation of the proposed development will generate income for the proponent and for the Town Council through rates and taxes.

9. ASSESSMENT OF IDENTIFIED IMPACTS

9.1 Risk Assessment and Rating

This section provides a significance assessment of the identified potential project impacts based on the four rating scales in terms of the most important parameter applicable to environmental management. These include the **extent, intensity, probability, and significance** of the possible impact on the environment. The rating scales used are as follows:

Table 5: Significance rating

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

Table 6: Significance level

Low impact 1 - 4	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction, or operating procedure.
Medium impact 5 - 8	Mitigation is possible with additional design and construction inputs.
High impact 9 - 12	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
Very high impact 13 - 16	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a “very high impact” is likely to be a fatal flaw.
Status	Denotes the perceived effect of the impact on the affected area.
Positive (+)	Beneficial impact
Negative (-)	Deleterious or adverse impact.
Neutral (/)	Impact is neither beneficial nor adverse
It is important to note that the status of an impact is assigned based on the status quo – i.e., should the project not proceed. Therefore, not all negative impacts are equally significant.	

9.2 Significance of impacts during construction phase

Table 7: Risk assessment construction phase

ASPECT	POTENTIAL IMPACTS	RATINGS (after mitigation measures)				
		Extent	Duration	Intensity	Probability	Significance
Bio-physical	• Land use changes	1	1	1	1	4
	• Vegetation clearance	1	1	1	1	4
	• Soil disturbances	1	2	2	2	7
	• Soil contamination and pollution	1	1	1	1	4
	• Visual impacts	1	1	1	1	4
	• Air pollution	1	1	1	1	4
Socio-economic	• Waste generation	1	1	1	1	4
	• Traffic impacts (delivery of building equipment)	1	1	2	2	6
	• Nuisance (noise, dust, and vibration)	1	1	1	1	4
	• Impact of construction camps	1	1	1	1	4
	• Health and safety risks	1	1	1	1	4
	• Employment opportunities (+ve)	1	1	2	2	6
	• Secondary business opportunities (+ve)	1	1	1	2	5

9.3 Operational Phase

Table 8: Risk Assessment Operational Phase

ASPECT	POTENTIAL IMPACTS	RATING (after mitigation measures)				
		Extent	Duration	Intensity	Probability	Significance
Bio-physical	• Soil contamination	1	1	2	1	5
	• Groundwater contamination	1	1	1	1	4
	• Contamination of surface water and drainage	1	1	2	1	5
	• Air pollution	1	1	1	1	4
Socio-economic	• Traffic impacts (delivery of fuel & customer refueling)	1	1	1	1	4
	• Fire and explosion risk	1	1	3	3	8
	• Waste generation	1	1	1	1	4
	• Health and Safety (exposure to chemicals)	1	1	1	1	4
	• Noise pollution	1	1	2	2	6
	• Employment and contribution to local economy (+ve)	1	1	2	2	6
	• Business prosperity (+ve)	1	1	2	2	6
	• Income generation (+ve)	1	1	2	2	6

9.4 Decommissioning and Rehabilitation

At this stage, the decommissioning of the proposed project is not envisaged. However, in case the project stalled, the construction contractor must ensure safe dismantling of the scaffolding, form wood used for reinforced concrete beams and columns, temporary store, and site office. Waste from construction of the proposed development will be carted away and disposed of at the approved sites. Waste found at the site will include the remainder of non-re-usable construction materials from activities such as.

- Masonry works/building works, (cement bags, broken building blocks, etc.)
- Roofing (broken tiles, timber pieces, steel, and iron bar etc.)
- Painting, (paint cans, reject paints, masking tapes, etc.)
- Carpentry and joinery work (timber, nails, glue, etc.)
- Plumbing (pipe fittings and off cuts, etc.)
- Electrical works (residual cables and connectors, damaged electrical fittings, etc.)
- Wastes generated from dismantling of fixtures and construction equipment.
- Wastes generated from wrappers and packaging material.
- Once all the waste resulting from demolition and dismantling works is removed from the site, the open earth sites will be restored through replenishment of the topsoil and re-vegetation using indigenous plant species.

In case the proponent decides to decommission it at some stage, a detailed decommissioning and rehabilitation plan should be prepared. During the decommissioning, all equipment and fixtures including form wood will be dismantled and removed from the site on decommissioning of the Project.

10. CONCLUSION AND RECOMMENDATIONS

10.1 Conclusion

The objective of the EIA study was to define the range of the impact assessment and determine the need to conduct any specialist study. It is believed that this objective has been achieved and adequately documented in the Scoping Report. All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements thus implementing this project will have little appreciable negative impacts.

It is assumed that all information provided by the I&APs, Stakeholders as well as by the EAP and its sources is deemed valid and correct at the time it was provided. Since there were no objections received, the project is well received by the potential IAPs, considering their inputs are incorporated in this report. The proponent will adhere to the recommendations and mitigations measures contained in this report and in the EMP here attached.

10.2 Recommendations

It is recommended that the proponent

- Ensure to obtain all necessary permits and authorizations for different activities as listed on Table of this report
- Conduct all activities in line with the Eenhana Town Planning Amendment Scheme of 2013, more especially Note 2: Business
- Implement all mitigation measures listed herein and outlined in the EMP

Lastly, it is recommended for the MEFT: DEAF to consider the findings in this Scoping Report be accepted and that the Environmental Commissioner.

- Consider the findings and recommendations of this scoping process with mitigation measures outlined in the Environmental Social Management Plan
- Subsequently, consider issuing an Environmental Clearance Certificate to authorize the; **Subdivision of Eenhana Townlands No 859 into Portion 35 and remainder and Construction and operation of a fuel retail station and truck port at Erf 35, Eenhana, Ohangwena region.**

Joseph Kondja Amushila
EAP
M.Sc. Environmental Management

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12. APPENDICES

Appendix A: List of IAPs

Appendix B: Proof of Consultation

Appendix C: Council Resolution

Appendix D: EMP

Appendix A: List of Interested and Affected Parties

ORGANISATION	REPRESENTATIVE AND TITLE	CONTACT DETAILS
1. Proponent	Peace Garden Investment Pty Ltd Ms. Mary Ashipara	0813057391 pcg@iway.na
2. Local Authority	Eenhana Town Council Mr. Steve Mwaningange Manager: Technical	0818286900
	Mr. Tomas Mutota Property Officer	0813015899
3. Town Planner	Plantek Town and Regional Planner	081 3509810 plantek@africaonline.com.na
4. RA	Mr. Leonard User H	0818797023 leonarduser@ra.org.na
	Mr. O. A. Ipinge	0811487331 iipingea@ra.org.na
5. Ministry of Environment Forestry and Tourism	Ms. Maria Kasera Forestry Technician	0812305732 wgatap2014@gmail.com
6. NORED	Mr. Petrus Iitula	0811444068
	Mr. Simon Ndahepele	0811446685