

**APP-002650**

**CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL  
INSTALLATION ON ERF 4896, WALVIS BAY**

**ENVIRONMENTAL ASSESSMENT SCOPING REPORT**



**Assessed by:**




**Assessed for:**

**CTI Mechanic Installation  
& Maintenance cc**


May 2021



<b>Project:</b>	<b>CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL INSTALLATION ON ERF 4896, WALVIS BAY: ENVIRONMENTAL ASSESSMENT SCOPING REPORT</b>	
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<b>Report Approval</b>	 <b>André Faul</b> Conservation Ecologist	

I Guang ming Lu acting as a representative of CTI Mechanic Installation & Maintenance cc hereby confirm that the project description contained in this report is a true reflection of the information which the Proponent provided to Geo Pollution Technologies. All material information in the possession of the proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report and the report is hereby approved.

Signed at Walvis Bay on the 26 day of May 2021.

  
CTI Mechanic Installation & Maintenance cc

CC/2019/05506  
Business Registration/ID Number



## SUMMARY

CTI Mechanic Installation & Maintenance cc intends to construct and operate a consumer fuel installation on erf 4896 in the industrial area of Walvis Bay. The facility will supply diesel to construction and fleet vehicles of CTI Mechanic Installation & Maintenance cc and partner companies. The installation will consist of one 23 m<sup>3</sup> aboveground steel tank inside an adequately sized concrete bund area. Fuel will be dispensed to vehicles on a concrete spill slab with catchment pits. General operations will involve the receipt of fuel from road tankers, dispensing fuel to fleet and construction and day to day administrative tasks.

The environmental assessment is conducted to determine all environmental, safety, health and socio-economic impacts associated with the construction and operations of the facility. Relevant environmental data has been compiled by making use of secondary data and from a reconnaissance site visit. Potential environmental impacts and associated social impacts were identified and are addressed in this report. Impacts on the surrounding environment that may be expected from the facility corresponds to those expected from developments earmarked for light industrial areas, see summary impacts table below. It is however recommended that environmental performance be monitored regularly to ensure regulatory compliance and that corrective measures be taken if necessary. The operations of the consumer fuel installation will play an important role in contributing to a reliable supply of fuel to the proponent thereby contributing towards effective operations and sustained employment. By being situated in the light industrial area, impacts elsewhere in town may be reduced.

The major concerns related to the construction and operations of the facility are that of potential groundwater, surface water and soil contamination and the possibility of fire. This will however be limited by adherence to South African National Standards and Material Safety Data Sheet instructions. Furthermore, noise pollution should meet the minimum requirements of the World Health Organisation standards. By appointing local contractors and employees and implementing educational programs the positive socio-economic impacts can be maximised while mitigating any negative impacts.

The environmental management plan included in section 10 of this document should be used as an on-site reference document during all phases (planning, construction (care and maintenance), operations and decommissioning) of the facility. All monitoring and records kept should be included in a report to ensure compliance with the environmental management plan. Parties responsible for transgression of the environmental management plan should be held responsible for any rehabilitation that may need to be undertaken. A Health, Safety, Environment and Quality policy as well as Environmental Policy could be used in conjunction with the environmental management plan. Operators and responsible personnel must be taught the contents of these documents. Municipal or national regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

### Impact Summary Class Values

Impact Category	Impact Type	Construction	Operations
<i>Positive Rating Scale: Maximum Value</i>		5	5
<i>Negative Rating Scale: Maximum Value</i>		-5	-5
EO	10.1.2 Skills Transfer, Employment and Income	2	2
SC	Demographic Profile and Community Health	-1	-1
EO	Fuel Supply		2
SC	Traffic	-2	-2
SC	Health, Safety and Security	-2	-2
PC	Fire	-2	-2
PC	Air Quality	-1	-1
PC	Noise	-1	-1
PC	Waste Production	-2	-2
BE	Ecosystem and Biodiversity Impact	-1	-1
PC/BE	Groundwater, Surface Water and Soil Contamination	-2	-2
SC	Visual Impact	-1	-1
PC/SC	Impacts on Utilities, Infrastructure and Seabed Scouring	-3	-2
PC	Cumulative Impact	-3	-3

BE = Biological/Ecological      EO = Economical/Operational      PC = Physical/Chemical      SC = Sociological/Cultural



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## **LIST OF ABBREVIATIONS**

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>BE</b>	Biological/Ecological
<b>DEA</b>	Directorate of Environmental Affairs
<b>EA</b>	Environmental Assessment
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	Environmental Management Act No 7 of 2007
<b>EMP</b>	Environmental Management Plan
<b>EMS</b>	Environmental Management System
<b>EO</b>	Economic/Operational
<b>ES</b>	Environmental Classification
<b>GPT</b>	Geo Pollution Technologies
<b>HIV</b>	Human Immunodeficiency Virus
<b>IAPs</b>	Interested and Affected Parties
<b>IUCN</b>	International Union for Conservation of Nature
<b>LNAPL</b>	Light Non-Aqueous Phase Liquids
<b>m/s</b>	Meter per second
<b>mbs</b>	Meters below surface
<b>MEFT</b>	Ministry of Environment, Forestry and Tourism
<b>mm/a</b>	Millimetres per annum
<b>MSDS</b>	Material Safety Data Sheet
<b>NaCl</b>	Sodium chloride
<b>PC</b>	Physical/Chemical
<b>PPE</b>	Personal Protective Equipment
<b>ppm</b>	Parts per million
<b>SAH</b>	South Atlantic High
<b>SANS</b>	South African National Standards
<b>SC</b>	Sociological/Cultural
<b>SO<sub>2</sub></b>	Sulphur dioxide
<b>UNCCD</b>	United Nations Convention to Combat Desertification
<b>WHO</b>	World Health Organization



## **GLOSSARY OF TERMS**

**Alternatives** - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

**Assessment** - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

**Competent Authority** - means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

**Construction** - means the building, erection or modification of a facility, structure or infrastructure that is necessary for the undertaking of an activity, including the modification, alteration, upgrading or decommissioning of such facility, structure or infrastructure.

**Cumulative Impacts** - in relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

**Environment** - As defined in the Environmental Assessment Policy and Environmental Management Act - “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values”.

**Environmental Impact Assessment (EIA)** - process of assessment of the effects of a development on the environment.

**Environmental Management Plan (EMP)** - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.

**Environmental Management System (EMS)** - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company’s bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company’s financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

**Evaluation** – means the process of ascertaining the relative importance or significance of information, the light of people’s values, preference and judgements in order to make a decision.

**Hazard** - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

**Interested and Affected Party (IAP)** - any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

**Mitigate** - The implementation of practical measures to reduce adverse impacts.

**Proponent (Applicant)** - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an

activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.

**Public** - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

**Scoping Process** - process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

**Significant Effect/Impact** - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

**Stakeholder Engagement** - The process of engagement between stakeholders (the proponent, authorities and IAPs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term “public participation”.

**Stakeholders** - A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (IAPs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

**Sustainable Development** - “Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations” – the definition of the World Commission on Environment and Development (1987). “Improving the quality of human life while living within the carrying capacity of supporting ecosystems” – the definition given in a publication called “Caring for the Earth: A Strategy for Sustainable Living” by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the World Wide Fund for Nature (1991).

## 1 BACKGROUND AND INTRODUCTION

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Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by CTI Mechanic Installation & Maintenance cc (the Proponent) to undertake an environmental assessment for the proposed construction and operations of a consumer fuel installation on erf 4896, Grand Avenue in the industrial area of Walvis Bay. (Figure 2-1). Establishment of the consumer fuel installation will involve:

- ◆ Site clearing, preparation and earthworks;
- ◆ Civil works required for new infrastructure;
- ◆ Construction of infrastructure for the consumer fuel installation including refuelling area, aboveground tank, pump and reticulation;
- ◆ Installation of associated electrical, water and sewerage utilities;
- ◆ Installation of spill control infrastructure.

Operations of the consumer fuel installation will include:

- ◆ Filling of the storage tank with fuel from road transport tankers;
- ◆ Dispensing of fuel to fleet and construction vehicles;
- ◆ Tank dips and fuel volume reconciliations;
- ◆ General operational activities and maintenance procedures associated with the facility.

A risk assessment was undertaken to determine the potential impacts of the construction, operational and possible decommissioning phases of the project on the environment. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as “land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

The environmental assessment was conducted to apply for an environmental clearance certificate in compliance with Namibia’s Environmental Management Act (Act No 7 of 2007).

**Project Justification** – Walvis Bay hosts Namibia’s largest port and fishing industry and the industrial sector of Walvis Bay is constantly growing. With the growing industrial as well as transport industry, the demand for fuel is increasing. The consumer fuel installation will ensure a reliable supply of fuel remains available to fleet and construction vehicles of the proponent, while reducing traffic congestion caused by large vehicles elsewhere in town.

Benefits of the consumer fuel installation include:

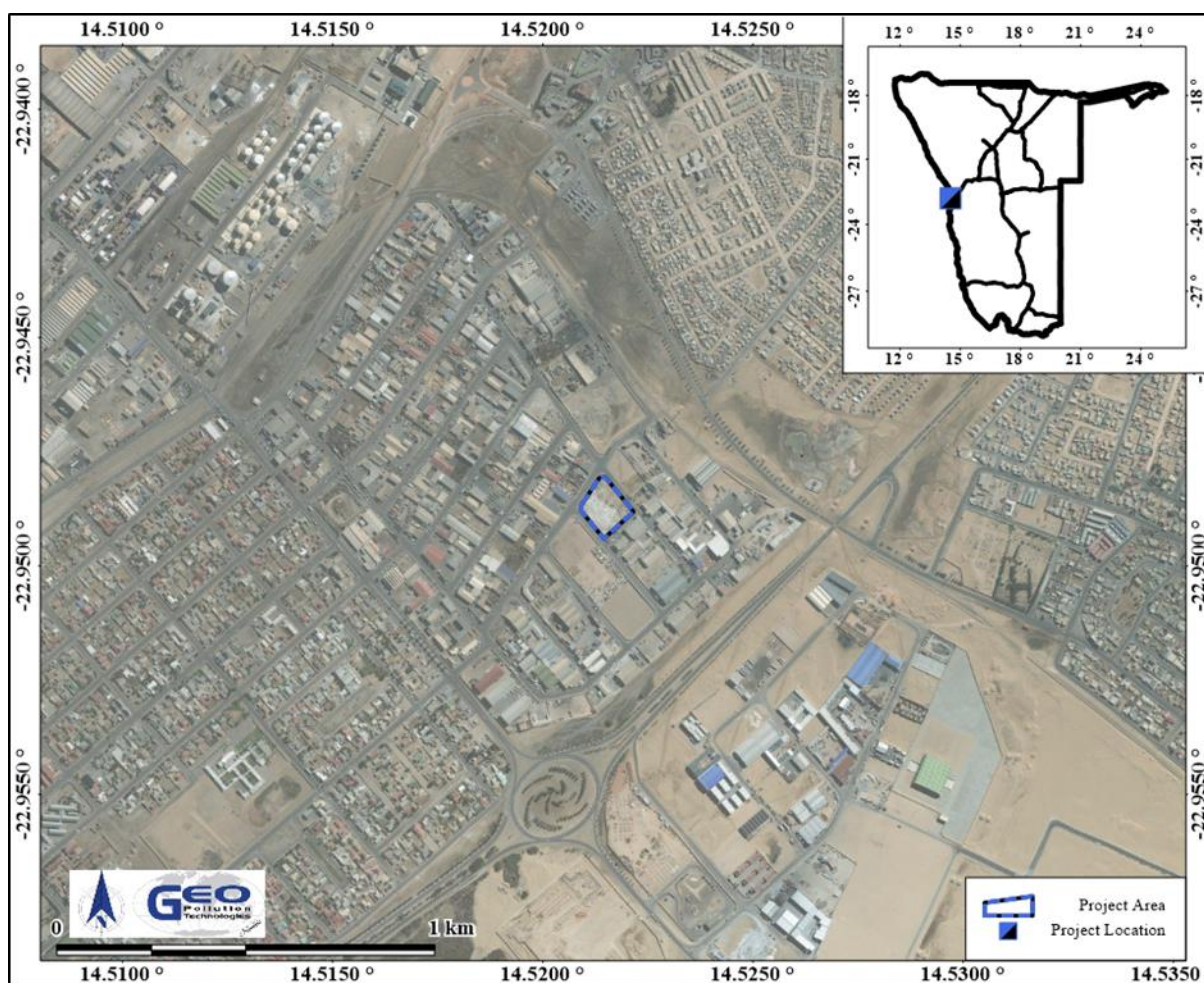
- ◆ Reliable supply of fuel to construction and fleet vehicles of the proponent and partner companies,
- ◆ Employment and skills training especially during the construction phase,
- ◆ Reduced traffic impacts caused by large vehicles elsewhere in town.

## 2 SCOPE

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The scope of the environmental assessment is to, in compliance with the requirements of the EMA:

1. Determine the potential environmental impacts emanating from the operational and possible decommissioning activities of the facility,
2. Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels,
3. Provide sufficient information to the relevant competent authority and MEFT to make an informed decision regarding the construction, operations and possible decommissioning of the facility.



**Figure 2-1. Project location**

### 3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the construction and operations of the facility:

1. Baseline information about the site and its surroundings was obtained from primary information, existing secondary information as well as from a reconnaissance site visit.
2. As part of the scoping process to determine potential environmental impacts, interested and affected parties (IAPs) were consulted about their views, comments and opinions all of which are presented in this report.
3. Potential environmental impacts emanating from the construction, operations and decommissioning of the facility were determined and possible enhancement measures were listed for positive impacts while mitigation/preventative measures were provided for negative impacts.
4. As per the findings of this scoping report, an environmental management plan (EMP) was incorporated into this report to be submitted to the MEFT.

## 4 CONSTRUCTION, OPERATIONS AND RELATED ACTIVITIES

It is anticipated that construction of the consumer fuel installation will commence once an environmental clearance certificate has been issued by the MEFT and the various additional permits and licences have been issued by the various regulatory bodies.

### 4.1 PLANNED INFRASTRUCTURE

The proponent proposes the construction of a consumer fuel installation on Erf 4896 in Grand Avenue, in the light industrial area of Walvis Bay. The facility will supply diesel to construction and fleet vehicles of CTI Mechanic Installation & Maintenance cc and partner companies. The proposed site is fenced off and surface cover is present on the whole site in the form of interlocked paving, the site currently hosts two large warehouses with ablution facilities.

The proponent intends to install one 23 m<sup>3</sup> aboveground steel storage tank on site. The storage tank will be situated in a bunded area as per industry standards, which allows for a bunded volume of 110%. The consumer fuel installation will host one pump island with one pump situated adjacent to the bunded area. All surfaces for refuelling will be surfaced with concrete spill control slabs connected to a three phase oil water separator with drains Figure 4-2. The oil water separator overflow will be connected to the municipal sewer. All infrastructure will be within erf 4896, access to the erf will be gained from Grand Avenue.

Safety systems will include emergency shutoff systems, channelling of storm water in order to prevent its contamination with hydrocarbons, and firefighting equipment. Fire extinguishers and emergency stops will be placed near the consumer installation and within easy reach of attendants. The proposed layout of the facility can be seen in Figure 4-1. Minor changes may however be made to the layout during finalisation of the design. The facility will adhere to all Namibian legislation and to relevant South African National Standards (SANS), ensuring safety and environmental protection.

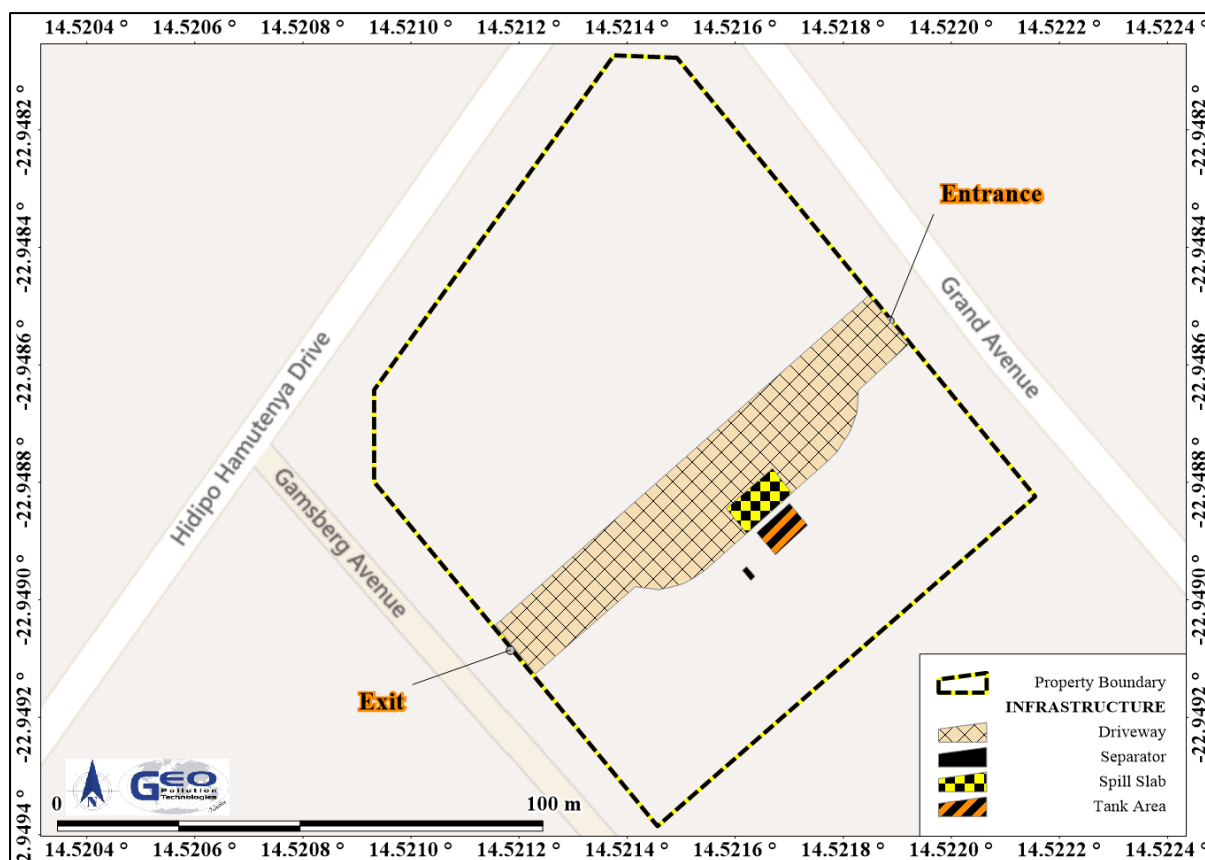


Figure 4-1. Site and proposed consumer fuel installation layout





Photo 1. Site entrance



Photo 2. Proposed installation location

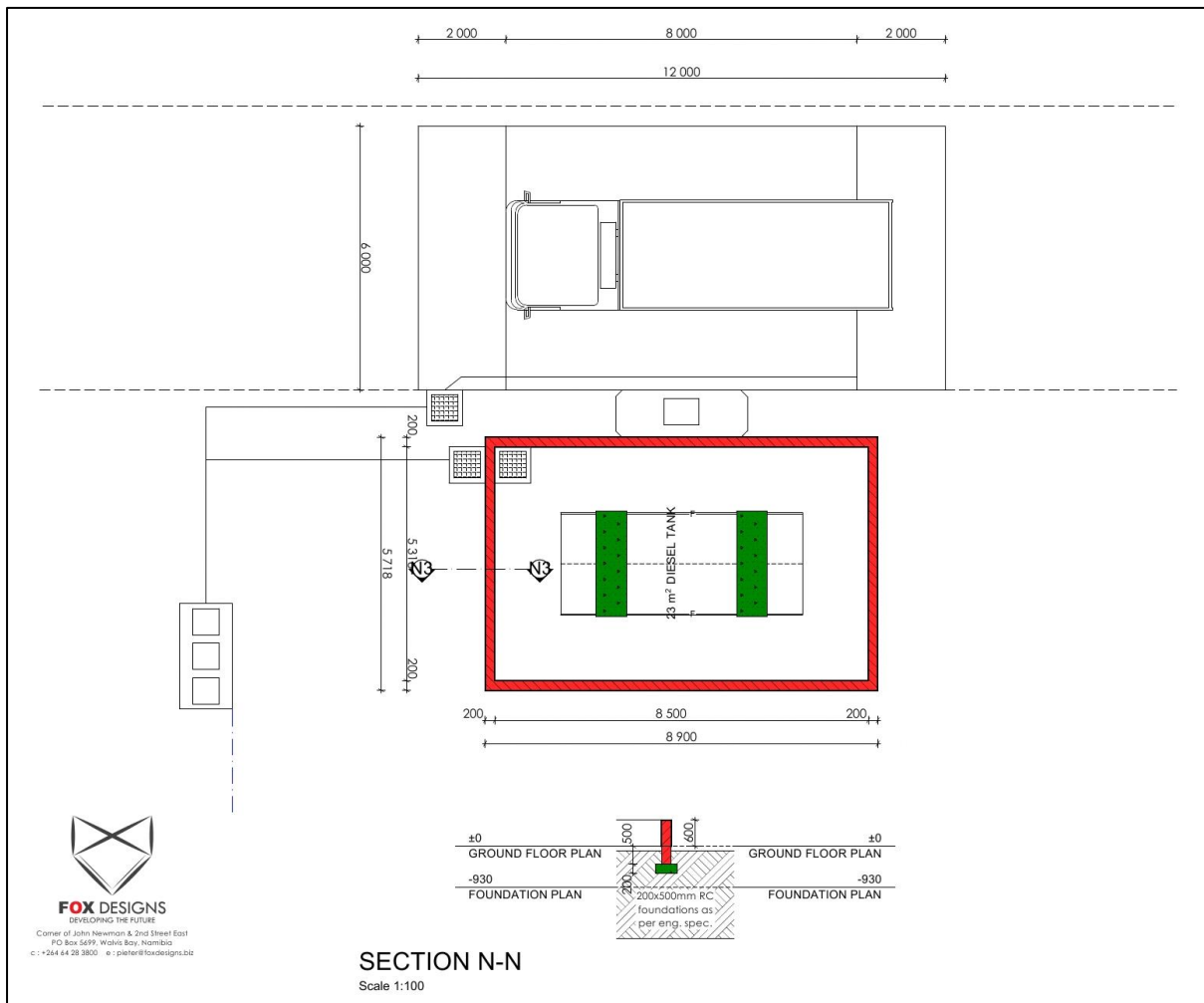


Figure 4-2. Detailed consumer fuel installation layout





**Photo 3. Alternative site access / exit in Gamberg Avenue**



**Photo 4. Northern view from installation location (towards site entrance)**



**Photo 5. South western view from installation location**



**Photo 6. North western view of site from installation location**

#### **4.1 OPERATIONAL ACTIVITIES**

Normal operations associated with the consumer fuel installation will take place. Diesel (50 ppm) will be received from tanker trucks and stored in the aboveground storage tank. Fuel will be dispensed to fleet and construction vehicles via the dispenser on the pump island by authorised employees as required. Employees will be provided with in-house training for refuelling and operations. Regular reconciliation of fuel volumes will be performed to detect any possible losses. Any contaminated products will be disposed of at a registered waste oil recycler or approved hazardous waste disposal facility.

Additional operations of the facility may include daily administrative activities as well as general care and maintenance of the property. Any domestic waste produced will be stored in an enclosed, temporary waste storage area. From here it will be removed regularly and transported to, and disposed of at, an approved municipal waste disposal facility.

## **5 ALTERNATIVES TO THE PROPOSED FACILITY**

Since the facility must adhere to SANS standards or better, no alternatives in design parameters adhering to SANS is proposed. From an environmental perspective, the environmental assessment did not find any reason why the facility may not continue at this site, on condition that it complies with SANS standards or better, as prescribed by Namibian legislation.

## 6 ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided in Table 6-1 to Table 6-4 govern the environmental assessment process in Namibia and/or are relevant to the facility.

**Table 6-1. Namibian law applicable to the consumer fuel installation**

Law	Key Aspects
<b>The Namibian Constitution</b>	<ul style="list-style-type: none"> <li>◆ Promote the welfare of people</li> <li>◆ Incorporates a high level of environmental protection</li> <li>◆ Incorporates international agreements as part of Namibian law</li> </ul>
<b>Environmental Management Act</b> Act No. 7 of 2007, Government Notice No. 232 of 2007	<ul style="list-style-type: none"> <li>◆ Defines the environment</li> <li>◆ Promote sustainable management of the environment and the use of natural resources</li> <li>◆ Provide a process of assessment and control of activities with possible significant effects on the environment</li> </ul>
<b>Environmental Management Act Regulations</b> Government Notice No. 28-30 of 2012	<ul style="list-style-type: none"> <li>◆ Commencement of the Environmental Management Act</li> <li>◆ List activities that requires an environmental clearance certificate</li> <li>◆ Provide Environmental Impact Assessment Regulations</li> </ul>
<b>Petroleum Products and Energy Act</b> Act No. 13 of 1990, Government Notice No. 45 of 1990	<ul style="list-style-type: none"> <li>◆ Regulates petroleum industry</li> <li>◆ Makes provision for impact assessment</li> <li>◆ Petroleum Products Regulations (Government Notice No. 155 of 2000) <ul style="list-style-type: none"> <li>○ Prescribes South African National Standards (SANS) or equivalents for construction, operation and decommissioning of petroleum facilities (refer to Government Notice No. 21 of 2002)</li> </ul> </li> </ul>
<b>The Water Act</b> Act No. 54 of 1956	<ul style="list-style-type: none"> <li>◆ Remains in force until the new Water Resources Management Act comes into force</li> <li>◆ Defines the interests of the state in protecting water resources</li> <li>◆ Controls the disposal of effluent</li> <li>◆ Numerous amendments</li> </ul>
<b>Water Resources Management Act</b> Act No. 11 of 2013	<ul style="list-style-type: none"> <li>◆ Provide for management, protection, development, use and conservation of water resources</li> <li>◆ Prevention of water pollution and assignment of liability</li> <li>◆ Not in force yet</li> </ul>
<b>Local Authorities Act</b> Act No. 23 of 1992, Government Notice No. 116 of 1992	<ul style="list-style-type: none"> <li>◆ Define the powers, duties and functions of local authority councils</li> <li>◆ Regulates discharges into sewers</li> </ul>
<b>Public Health Act</b> Act No. 36 of 1919	<ul style="list-style-type: none"> <li>◆ Provides for the protection of health of all people</li> </ul>

<b>Law</b>	<b>Key Aspects</b>
<b>Public and Environmental Health Act</b> Act No. 1 of 2015, Government Notice No. 86 of 2015	<ul style="list-style-type: none"> <li>◆ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters</li> <li>◆ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation</li> </ul>
<b>Labour Act</b> Act No 11 of 2007, Government Notice No. 236 of 2007	<ul style="list-style-type: none"> <li>◆ Provides for Labour Law and the protection and safety of employees</li> <li>◆ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)</li> </ul>
<b>Atmospheric Pollution Prevention Ordinance</b> Ordinance No. 11 of 1976	<ul style="list-style-type: none"> <li>◆ Governs the control of noxious or offensive gases</li> <li>◆ Prohibits scheduled process without a registration certificate in a controlled area</li> <li>◆ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process</li> </ul>
<b>Hazardous Substances Ordinance</b> Ordinance No. 14 of 1974	<ul style="list-style-type: none"> <li>◆ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export</li> <li>◆ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings</li> </ul>
<b>Pollution Control and Waste Management Bill (draft document)</b>	<ul style="list-style-type: none"> <li>◆ Not in force yet</li> <li>◆ Provides for prevention and control of pollution and waste</li> <li>◆ Provides for procedures to be followed for licence applications</li> </ul>

**Table 6-2. Municipal by-laws, guidelines and regulations**

<b>Municipal By-laws, Guidelines or Regulations</b>	<b>Key Aspects</b>
<b>Integrated Urban Spatial Development Framework for Walvis Bay</b>	<ul style="list-style-type: none"> <li>◆ Overall vision to transform Walvis Bay to being the primary industrial city in Namibia</li> <li>◆ Aims to ensure that appropriate levels of environmental management is enforced for all developments in Walvis Bay</li> </ul>
<b>Town Planning Scheme No. 35</b>	<ul style="list-style-type: none"> <li>◆ Provides for specific land use activities on light industrial areas</li> <li>◆ Allows service stations (including consumer fuel installations) without the need for Municipal consent on light industrial erven</li> <li>◆ Refer to Appendix A for provisions for light industrial areas.</li> </ul>
<b>Integrated Environmental Policy of Walvis Bay (Agenda 21 Project)</b>	<ul style="list-style-type: none"> <li>◆ Indicates the directions that the Municipality of Walvis Bay will move towards in the forthcoming years to fulfil its responsibilities to manage the environment of Walvis Bay together with the town's residents and institutions</li> <li>◆ Strong focus on conservation and protection of environment</li> </ul>
<b>Municipal By-law 19 and 20 on Effluents Entering Sewers</b>	<ul style="list-style-type: none"> <li>◆ Regulates the discharge of effluent into sewers and prohibits the introduction of certain wastes or products including steam into the sewers system.</li> </ul>

**Table 6-3. Relevant multilateral environmental agreements for Namibia**

<b>Agreement</b>	<b>Key Aspects</b>
<b>Stockholm Declaration on the Human Environment, Stockholm 1972.</b>	<ul style="list-style-type: none"> <li>◆ Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment</li> </ul>
<b>1985 Vienna Convention for the Protection of the Ozone Layer</b>	<ul style="list-style-type: none"> <li>◆ Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered.</li> <li>◆ Adopted to regulate levels of greenhouse gas concentration in the atmosphere</li> </ul>
<b>United Nations Framework Convention on Climate Change (UNFCCC)</b>	<ul style="list-style-type: none"> <li>◆ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention</li> </ul>
<b>Convention on Biological Diversity, Rio de Janeiro, 1992</b>	<ul style="list-style-type: none"> <li>◆ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity</li> </ul>

**Table 6-4. Standards or codes of practise**

<b>Standard or Code</b>	<b>Key Aspects</b>
<b>South African National Standards (SANS)</b>	<ul style="list-style-type: none"> <li>◆ The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and demolition of petroleum facilities</li> <li>◆ SANS 10131 (2004): Above-ground storage tanks for petroleum products.</li> <li>◆ SANS 10089-3:2010 is specifically aimed at storage and distribution of petroleum products at fuel retail facilities and consumer installations <ul style="list-style-type: none"> <li>○ Provide requirements for spill control infrastructure</li> </ul> </li> </ul>

The project is listed as an activity requiring an environmental clearance certificate as per the following points from Section 9 of Government Notice No. 29 of 2012:

- ◆ 9.1 “The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.”
- ◆ 9.2 “Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.”
- ◆ 9.4 “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.”
- ◆ 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.”

## 7 ENVIRONMENTAL CHARACTERISTICS

This section lists pertinent environmental characteristics of the study area and provides a statement on the potential environmental impacts on each.

### 7.1 LOCALITY AND SURROUNDING LAND USE

The facility is planned on erf 4896, Grand Avenue, Walvis Bay (22.9489 °S, 14.5217 °E) (Figure 2-1). The property is situated within a light industrial area in the municipal area of Walvis Bay. Access to the site will be gained from Grand Avenue with the option of an alternative exit to be used to Gamsberg Avenue when traffic impacts are expected. The site is zoned for light industrial use and surrounding properties are mainly used for light industrial and commercial purposes. There are no heritage or cultural sites located on or in close proximity to the site. Adjacent land owners, as contacted during the public consultation process, are listed in Appendix B. The nearest known fuel storage facilities to the proposed tank location are on erf 4910 and erf 3738, approximately 65 m and 130 m from the location.

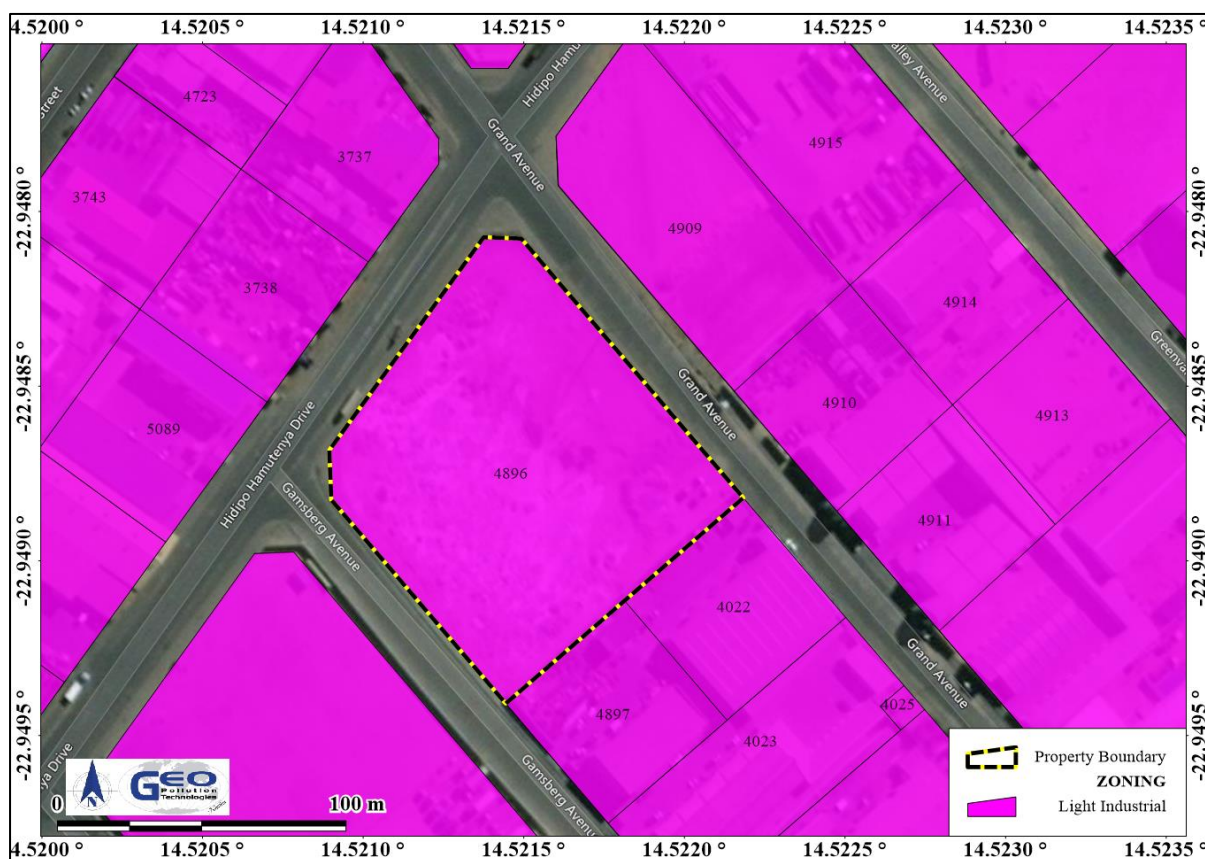


Figure 7-1. Zoning map



**Photo 7. Eastern neighbouring property**



**Photo 8. Southern / south eastern neighbouring property**

### ***Implications and Impacts***

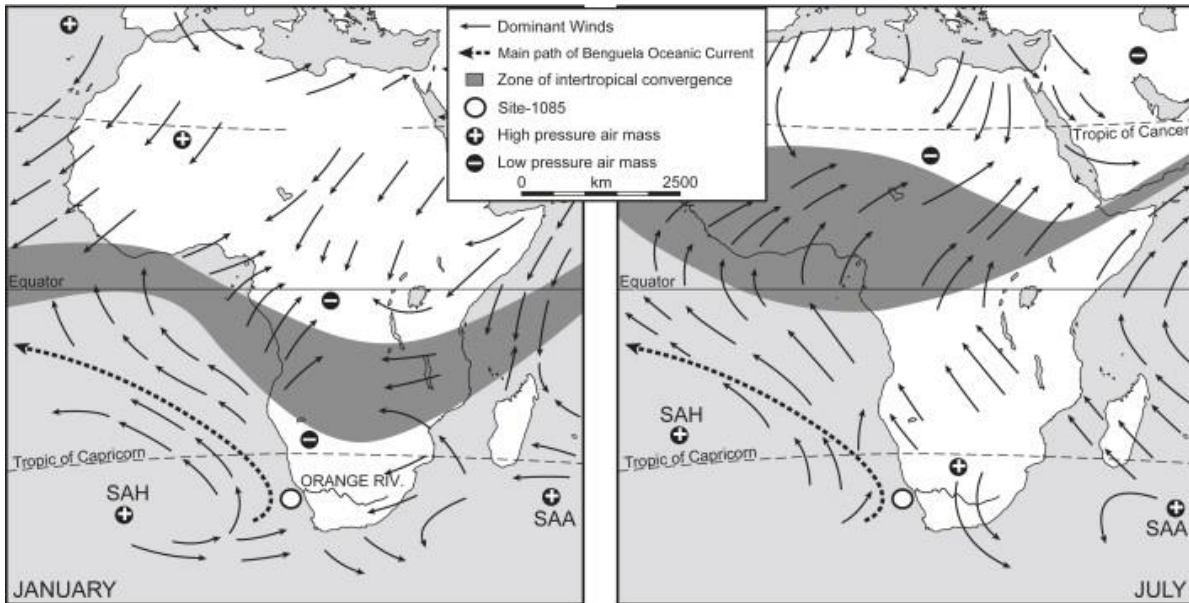
The site is situated in an area zoned for light industrial purposes. No significant land use impact is expected on nearby establishments from the operations of the related consumer fuel installation.

## **7.2 CLIMATE**

Namibia's climate is dominated by dry conditions for most of the year and particularly so in the west. The location of Namibia with respect to the Intertropical Convergence Zone, Subtropical High Pressure Zone and Temperate Zone is what determines the climate, with the Subtropical High Pressure Zone being the major contributor to the dry conditions (Atlas of Namibia, 2002; Bryant, 2010). Precipitation over Namibia is mainly controlled by the South Atlantic High (SAH), a high pressure cell (anticyclone) situated west of Namibia in the Subtropical High Pressure Zone. The SAH shifts during the year and is at higher latitudes in winter and lower latitudes in summer. In winter, as a result of being situated more north, the high pressure cell pushes any moisture originating from the Intertropical Convergence Zone northwards, preventing rain over Namibia. In summer, because the high pressure cell moves further south, and has less of an effect on the Intertropical Convergence Zone, moist air reaches Namibia, resulting in summer rains.

On a more localised scale, the climatic conditions on the central Namibian coast, and inland thereof (coastal plains), are strongly influenced by the cold Benguela current, the SAH and the relatively flat coastal plains separated from the central highlands by a steep escarpment. The anticlockwise circulation of the high pressure SAH and the action of the earth's Coriolis force result in strong southerly (longshore) winds blowing northwards up the coastline of Namibia (Bryant, 2010; Corbett, 2018). This longshore wind is responsible for upwelling of the cold, deep waters of the Benguela Current. As a result of the temperature difference between the cold surface water of the Benguela Current and the warm coastal plains, the southerly wind is diverted to a south south-westerly to south-westerly wind along the coast. At Walvis Bay the temperature gradient that forms over the warmer darker sands south of the Kuiseb River, compared with the cooler lighter coloured gravel plains to the north of the river, leads to the formation of cyclonic circulation (localised low-pressure systems) centred over the dune area, due to warm air that rises. This, together with topographical changes and land-use, causes a local deflection of wind flow over the Walvis Bay area, from south to southwest in Walvis Bay (Figure 7-3), to more southwest to westerly further inland, as well as reduced wind speeds. More low speed, westerly winds are for example experienced at the Walvis Bay Airport (Rooikop) (Figure 7-4).

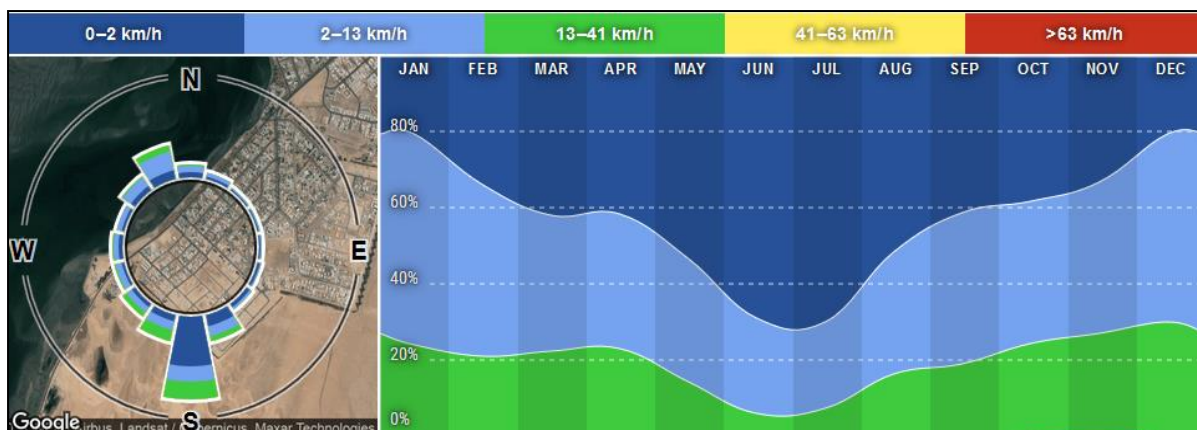




**Figure 7-2. Map indicating the Intertropical Convergence Zone, Subtropical High Pressure Zone (SAH+), Benguela Current and Temperate Zone south of Tropic of Capricorn (not indicated) (from: <http://www.meteoweb.eu>)**

The winds are strongest in early to mid-summer (September to January) when the SAH is at its strongest and most persistent, and the temperature difference between the sea and the desert plains are at its greatest. Wind speeds then occasionally exceed 32 km/h and usually peaks late morning to early afternoon. In winter, the SAH loses strength and the southerly to south-westerly winds are at their weakest. Winter winds do not have enough strength to reach far inland. Autumn to winter conditions do however promote the formation of east wind conditions (berg winds) that can reach speeds of more than 50 km/h and transport a lot of sand. East winds occur when the inland plateau is cold with a localised high pressure cell, while a low pressure system is present at the coast. The high pressure cell forces air off the escarpment and as the air descends, it warms adiabatically as well as create a low pressure system due to the vertical expansion of the air column. The warm air flows toward the coastal low and as it passes over the Namib plains, it heats up even further. The wind manifests itself as very strong, warm and dry winds during the mornings to early afternoon, but dies down late afternoon.

Throughout the year the prevailing night time wind is a weak easterly wind. This results from the mainland cooling to below the temperature of the coastal water. This results in a coastal low versus an onshore high pressure system with first no wind in the early evening, when temperatures between water and land is similar, and then weak easterly winds as the temperature difference increase.



**Figure 7-3. Wind direction and strength at the Walvis Bay Lagoon as measured between 2013 and 2020 (From: [https://www.windfinder.com/windstatistics/walvis\\_bay\\_airport](https://www.windfinder.com/windstatistics/walvis_bay_airport))**

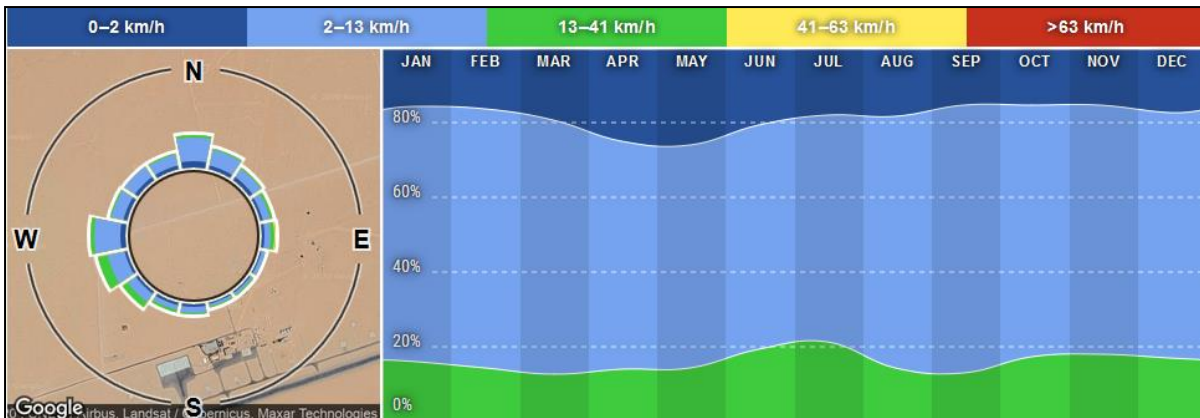


Figure 7-4. Wind direction and strength at the Walvis Bay Airport as measured between 2003 and 2020 (From: [https://www.windfinder.com/windstatistics/walvis\\_bay\\_airport](https://www.windfinder.com/windstatistics/walvis_bay_airport))

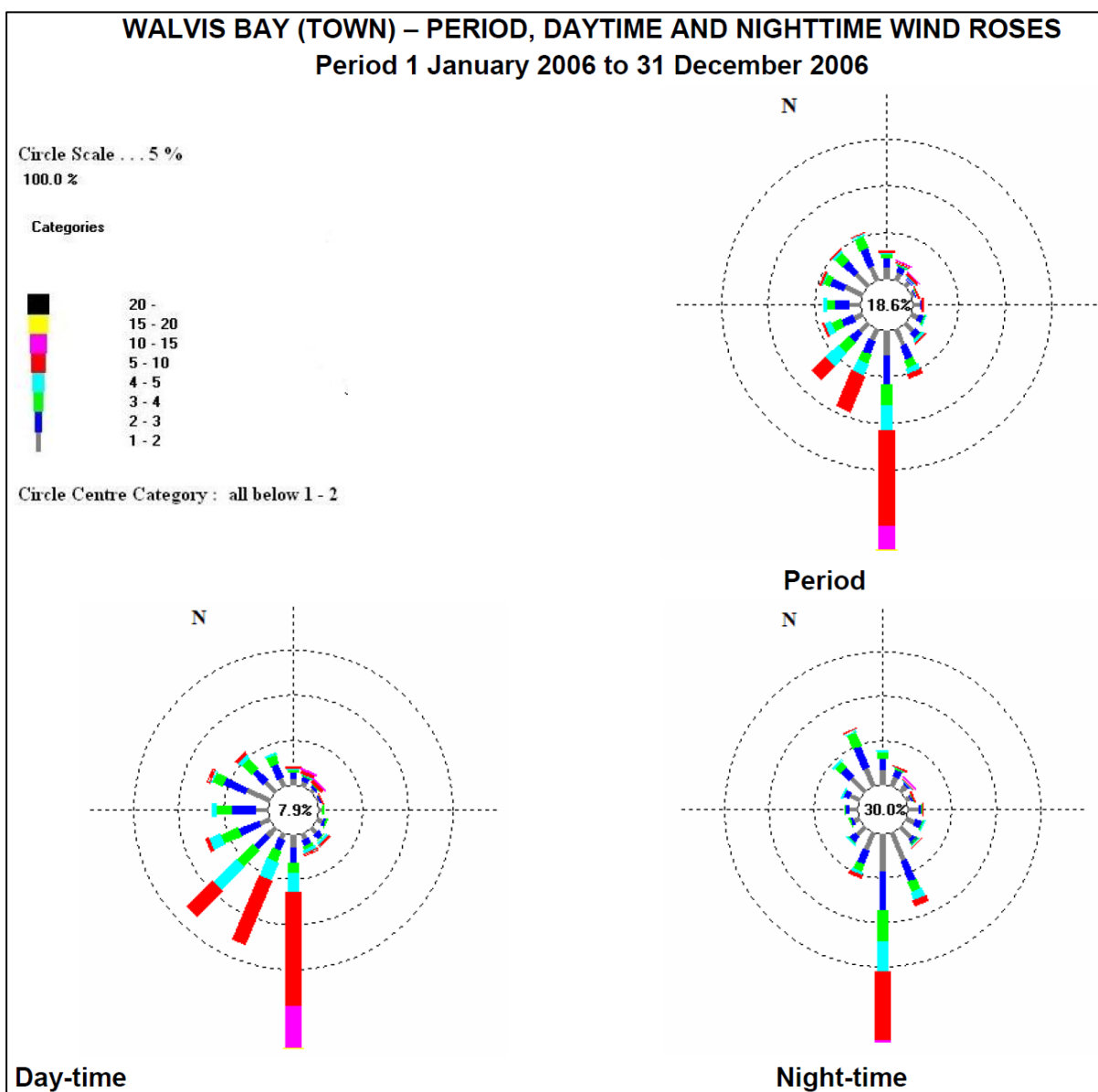
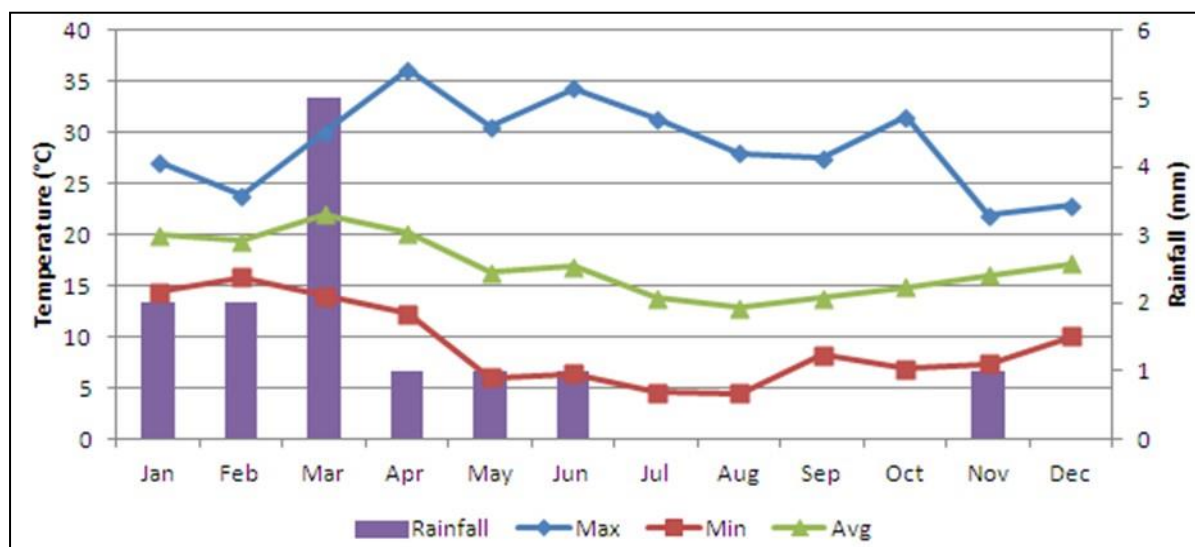


Figure 7-5. Period, daytime and night-time wind roses for Town for the period 2006 (From: Petzer & von Gruenewaldt 2008)



Temperature at Walvis Bay is strongly regulated by the cold Benguela current. As a result, there is typically limited variation between diurnal and seasonal temperatures. Average annual temperatures are approximately 18 °C to 19 °C with the maximum temperature seldom above 30 °C and minimums rarely below 5 °C (Figure 7-6). The only real temperature extremes are experienced during east wind conditions in the autumn to early winter months when temperatures can reach the upper thirties or even low forties. This results in these months having an average maximum temperature ranging from 30 °C to 35 °C. As one moves inland from Walvis Bay, daytime temperatures increase rather quickly while night time temperatures can get significantly colder in the desert environment.



**Figure 7-6. Temperature and rainfall at Walvis Bay (From: uMoya-NILU, 2020)**

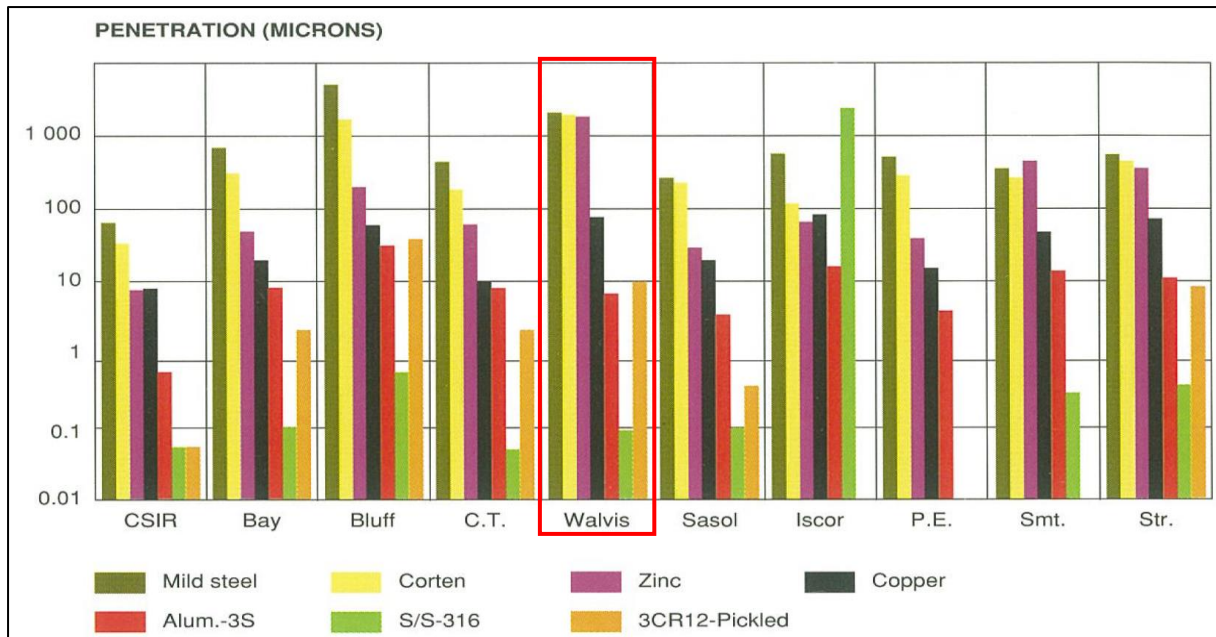
As explained above, the SAH severely limits the amount of rainfall over Namibia and especially at the coast and over the Namib Desert. As such, the average annual rainfall in Walvis Bay is below 50 mm (Figure 7-6), with variation in annual rainfall exceeding 100%. Infrequent, heavy rainfall do occur and typically results in rather chaotic conditions as Walvis Bay, and other coastal towns, has not been developed to cater for large volumes of stormwater. Fog plays a very significant role as source of water for many plants and animals along Namibia's coast and the Namib Desert. Walvis Bay has up to 900 hours of fog per year and it results from the cold Benguela water cooling the humid air above it to such a temperature that the water vapour condenses to form fog and low level clouds (Mendelsohn et al., 2002).

#### ***Implications and Impacts***

Water is a scarce and valuable resource in Namibia and Walvis Bay is characterized by low and extremely variable seasonal rainfall. This makes water an extremely vulnerable resource. Occasional flooding does occur and if the facility is not adequately designed may experience damage.

### **7.3 CORROSIVE ENVIRONMENT**

Walvis Bay is located in a corrosive environment, which may be attributed to the frequent salt-laden fog, periodic winds and abundance of aggressive salts (dominantly NaCl and sulphates) in the soil. The periodic release of hydrogen sulphide (H<sub>2</sub>S) from the ocean is expected to contribute to corrosion. See Figure 7-7 for corrosion comparison data with other centres. The combination of high moisture and salt content of the surface soil can lead to rapid deterioration of subsurface metal (e.g. pipelines) and concrete structures. Chemical weathering of concrete structures due to the abundant salts in the soil is a concern.



**Figure 7-7. Twenty year corrosion exposure results in southern African towns (Callaghan 1991)**

#### ***Implications and Impacts***

Corrosion levels may be high and must be kept in mind when planning the construction of the facility and related infrastructure as well as for general maintenance.

#### **7.4 TOPOGRAPHY AND DRAINAGE**

Walvis Bay is located in the Central Western Plain of Namibia. The Kuiseb River forms the southern boundary of this landscape group, with the Namib Dune Field being present south of the Kuiseb River. A bay is formed by a peninsula commonly known as Pelican Point. On the southern part of the bay is a lagoon which used to be the mouth of the Kuiseb River. Dune migration however forced the flow of the Kuiseb River to the north. This flow was stopped through the construction of a flood control wall to prevent flooding of the town of Walvis Bay, thus forcing the flood waters to move through the dune area to the lagoon. The Kuiseb River now rarely reaches the lagoon.

The topography is generally flat with a local gentle downward slope in a northerly direction. Drainage is poorly developed due to the lack of rainfall (<50 mm/annum) received in the area. A dune field is present southeast of Walvis Bay and also further to the northeast. These dunes generally migrate in a northerly direction. Further inland is the gravel plains of the central areas of the Namib Naukluft Park. Surface water around Walvis Bay is limited to the marine salt pans, lagoon and ocean as well as a man-made wetland formed as a result of the sewage treatment works. The site and surrounding areas has a gentle slope towards the southwest (towards Gamsberg Avenue).

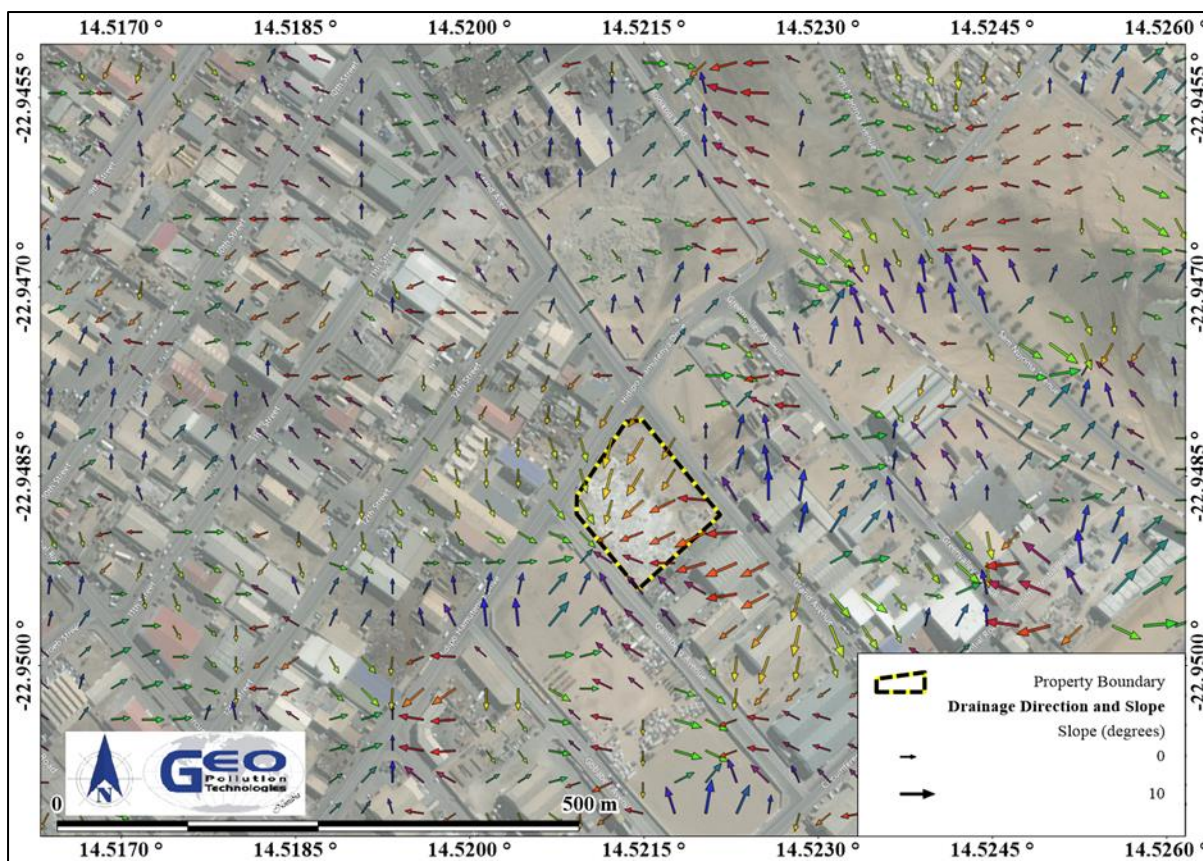


Figure 7-8. Drainage direction and slope

#### *Implications and Impacts*

The site has a gentle slope towards the southwest and is covered with interlocked paving. Any pollution that is not contained may penetrate the surface cover or flow out of the site.

### 7.5 GEOLOGY AND HYDROGEOLOGY

Walvis Bay is located in the Central Western Plain of Namibia. The Kuiseb River forms the southern boundary of this landscape group, with the Namib Dune Field being present south of the Kuiseb River. Northerly dune migration is forcing the Kuiseb River in a northerly direction, with Kuiseb River paleochannels being present as far south as Sandwich Harbour.

Following the breakup of West-Gondwana during the early Cretaceous (130 – 135 Ma ago), continental uplift took place, enhancing erosional cutback and the formation of the Namibian Escarpment. A narrow pediplain formed, mainly over Damara Age Rocks. The South Atlantic started filling in over the pediplain, with marine conditions established around 80 Ma ago. Towards the end of the Cretaceous (70 – 65 Ma ago) a relative level surface was created, on which later deposition of sediments took place. Marine deposition took place in the parts covered by the newly formed South Atlantic Ocean, while terrestrial deposits took place on land. Further continental uplift moved the shoreline to its present position, from approximately just east of Dune 7.

Northwards migration of sand covered parts of the exposed marine deposits, with Kuiseb floods also depositing material over the marine sediments. Depth to bedrock in Walvis Bay is expected to be deeper than 40 m. Based on previous work conducted in the area it is expected that the sediments under the project area would consist of medium to coarse grain sand with thin lenses of more clayey material and layers of shell material. The hydraulic conductivity is expected to be moderate to high.

The hydraulic head in the area is very low due to the relative horizontal water table. Pollutants are therefore not expected to rapidly spread, despite the relatively high hydraulic conductivity.

Depth to water table is expected to be less than 2 mbs. The subsurface water is mostly saline and not suitable for human consumption. Groundwater is not abstracted for human consumption in Walvis Bay. The Municipality of Walvis Bay currently purchase fresh/potable water from Namwater, which source water from the Kuiseb Water Supply Scheme.

***Implications and Impacts***

Groundwater is not utilised in the area. Pollution of the groundwater is however still prohibited. Shallow groundwater will lead to rapid lateral spreading of hydrocarbon products spilled or leaked. This will further have potential impact on underground utilities and may cause impacts on neighbouring properties.

**7.6 PUBLIC WATER SUPPLY**

Public water supply to Walvis Bay and the surrounding developments is provided by NamWater from the NamWater Kuiseb Water Supply Scheme.

***Implications and Impacts***

The consumer fuel installation is not expected to have an impact on public water supply.

**7.7 FAUNA AND FLORA**

The site is located within a developed industrial area and has been cleared of all vegetation. No animals of particular significance are expected except for birds flying overhead as a result of a number of breeding, roosting and foraging areas for water birds in the area. Of note nearby (4 km west) is the Walvis Bay Lagoon. The lagoon, the salt works, and the southern part of the bay west of the lagoon, are the key components of the 12,600 ha RAMSAR site (Wetland of International Importance). It is important both as an over-wintering area for Palaearctic migrant wader species as well as for African species such as Greater and Lesser Flamingos, Great White Pelican and Chestnut-Banded Plovers. Pools of semi-purified sewage effluent, situated 1 km south of the study area, are regarded as a sensitive manmade wetland. Although a manmade fresh water source, it is an attraction for pelicans and flamingos, 53% of the duck and geese population in the area, and many other birds. The wetland is formed by the constant inflow of semi-purified water and supports extensive stands of reeds. There is also a flight path for birds between the sewerage ponds and the offshore bird breeding platform (Ghwano Island) 9 km north of the site.

***Implications and Impacts***

The proposed facility is located within an already disturbed industrial area. Thus no immediate threat to biodiversity in the area is expected, however, uncontrolled pollution may and can cause damage to any biodiversity surrounding the site. Lighting used at night may blind or disorientate birds like flamingos that fly at night. This may lead to collisions with man-made structures.

**7.8 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS**

At local level Walvis Bay has an urban population size of 62,096 (Namibia Statistics Agency, 2014) although the current estimate is around 90,000 to 100,000. Walvis Bay is the principal port of Namibia, and is an import/export facility for processed fish, mining products and beef. The area is linked to Namibia's air, rail and road network, making its port well situated to service Zambia, Zimbabwe, Botswana, Southern Angola and South Africa. The fishing industry is the major employer of low skilled workers on a permanent and seasonal basis. The total employment of this sector is estimated at 2% of the total Namibian workforce. Economic activities relate mostly to businesses within the area and around the site.



**Table 7-1. Demographic Characteristics of Walvis Bay, the Erongo Region and Nationally (Namibia Statistics Agency, 2011)**

	Walvis Bay	Erongo Region	Namibia
Population (Males)	30,500	79,823	1,021,912
Population (Females)	29,000	70,986	1,091,165
Population (Total)	62,096	150,809	2,113,077
Unemployment (15+ years)	N/A	22.6%	33.8%
Literacy (15+ years)	N/A	96.7%	87.7%
Education at secondary level (15+ years)	N/A	71.8%	51.2%
Households considered poor	N/A	5.1%	19.5%

***Implications and Impacts***

The consumer fuel installation will aid in ensuring employment is sustained by providing a reliable supply of fuel to CTI Mechanic Installation & Maintenance. Some skills development and training will also benefit employees during the operational phase.

**7.9 HERITAGE, CULTURAL AND ARCHAEOLOGICAL ASPECTS**

There are no churches, mosques or related buildings in close proximity to the site. No known archaeological resources have been noted in the vicinity since the urbanisation of the area. No other structures, sites or spheres of heritage of cultural significance was determined to be in close proximity to the site.

***Implications and Impacts***

No heritage, cultural or archaeological impact is expected to emanate due to the project.

**8 PUBLIC CONSULTATION**

Consultation with the public forms an integral component of an environmental assessment investigation and enables interested and affected parties (IAPs) e.g. neighbouring landowners, local authorities, environmental groups, civic associations and communities, to comment on the potential environmental impacts associated with the facility and to identify additional issues which they feel should be addressed in the environmental assessment. Public participation notices were advertised twice in two weeks in the national papers The Namibian Sun and Die Republikein on the 21<sup>st</sup> and 28<sup>th</sup> of April 2021 respectively. A site notice was placed on site and notification letters delivered to identified neighbours. The Municipality of Walvis Bay was also notified by hand delivered letter and a meeting held to discuss the project. During the meeting, concerns were raised regarding fire risk associated possibility existing nearby fuel storage facilities, and that any of them is closer than 50 m to the proposed tank location, this would be a concern. Further concerns raised were related to traffic impacts and access to the site. These impacts are addressed in section 10 of the report. It should further be noted that the nearest existing fuel storage is an estimated 65 m from the proposed tank location, exceeding the 50 m recommendation made during the meeting. See Appendix B: Proof of Public Consultation for proof of the public participation processes, registered IAPs and municipal feedback.

**Table 8-1. Municipal meeting attendance register**

Name	Organisation
Wikus Coetzer	Geo Pollution Technologies
T. Kathundi	Municipality of Walvis bay - Fire Brigade
David Uushona	Municipality of Walvis Bay – Environmental
Lovisa Hailaula	Municipality of Walvis Bay – Environmental
Nangula Amatsi	Municipality of Walvis Bay – Environmental
Deville Dreyer	Municipality of Walvis Bay - Health

## 9 MAJOR IDENTIFIED IMPACTS

During the scoping exercise a number of potential environmental impacts have been identified. The following section provides a brief description of the most important of these impacts.

### 9.1 HYDROCARBON POLLUTION

This section describes the most pertinent pollution impacts that are expected from the facility and its operations. Groundwater and soil pollution from hydrocarbon products are major issues associated with the storage and handling of such products. Both forms of pollution are prohibited in Namibia.

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. LNAPL transport in the subsurface environment occurs in several phases, including bulk liquid, dissolved, and vapour phases. 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.

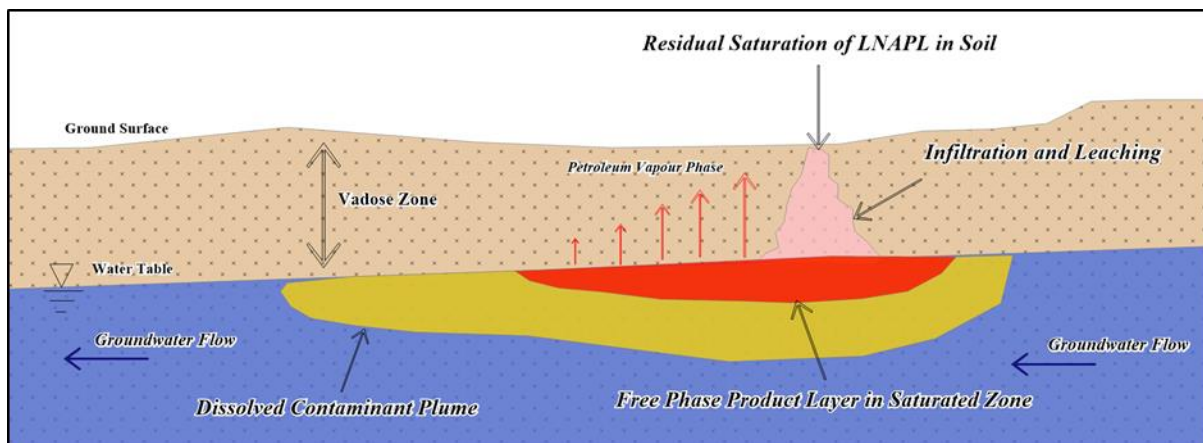
If small volumes of spilled LNAPL enter the unsaturated zone (i.e. vadose zone), the LNAPL will flow through the central portion of the unsaturated pores until residual saturation is reached. A three-phase system consisting of water, LNAPL, and air is formed within the vadose zone. Infiltrating water dissolves the components within the LNAPL (e.g., benzene, xylene, and toluene) and transports them to the water table. These dissolved contaminants form a contaminated plume radiating from the area of the residual product. Many components found in LNAPL are volatile and can partition into soil air and be transported by molecular diffusion to other parts of the aquifer. As these vapours diffuse into adjoining soil areas, they may partition back into the water phase and transfer contamination over wider areas. If the soil surface is relatively impermeable, vapours will not diffuse across the surface boundary and concentrations of contaminants in the soil atmosphere may build up to equilibrium conditions. However, if the surface is not covered with an impermeable material, vapours may diffuse into the atmosphere.

If large volumes of LNAPL are spilled, the LNAPL flows through the pore space to the top of the capillary fringe of the water table. Dissolved components of the LNAPL precede the less soluble components and may change the wetting properties of the water, causing a reduction in the residual water content and a decrease in the height of the capillary fringe.

Since LNAPL are lighter than water, it will float on top of the capillary fringe. As the head formed by the infiltrating LNAPL increases, the water table is depressed and the LNAPL accumulate in the depression. If the source of the spilled LNAPL is removed or contained, LNAPL within the vadose zone continue to flow under the force of gravity until reaching residual saturation. As the LNAPL continue to enter the water table depression, it spread laterally on top of the capillary fringe. The draining of the upper portions of the vadose zone reduces the total head at the interface between the LNAPL and the groundwater, causing the water table to rebound slightly. The rebounding water displaces only a portion of the LNAPL because the LNAPL remain at residual saturation. Groundwater passing through the area of residual saturation dissolves constituents of the residual LNAPL, forming a contaminant plume. Water infiltrating from the surface also can dissolve the residual LNAPL and add to the contaminant load of the aquifer.

Decrease in the water table level from seasonal variations may lead to dropping of the pool of LNAPL. If the water table rises again, part of the LNAPL may be pushed up, but a portion remains at residual saturation below the new water table. Variations in the water table height, therefore, can spread LNAPL over a greater thickness of the aquifer, causing larger volumes of aquifer materials to be contaminated.

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.



**Figure 9-1. Conceptual LNAPL release to the vadose zone**

## 9.2 NOISE IMPACTS

Construction noise will be related to concrete mixing, excavations and vehicles accessing the site. Some noise will exist due to vehicles accessing the site for delivering and collecting fuel during operations.

## 9.3 TRAFFIC IMPACTS

The operations of CTI Mechanic Installations and Maintenance may result in increased traffic in the area. However, operations of the consumer fuel installation is not expected to result in increased traffic to the site apart from infrequent fuel deliveries, since it is located on the proponent's premises. The use of the access gate situated in Gamsberg Avenue to exit the site during periods of high traffic volumes will further aid in traffic flow and alleviating possible traffic impacts. The operations of the consumer fuel installation will in return have a positive impact on traffic flow in other areas of the town by reducing traffic at already congested fuel retail facilities.

## 9.4 FIRE

Diesel will be stored at the site in large volumes. Although diesel is less flammable than more volatile fuels such as unleaded petrol, it still poses a fire risk if not handled according to Material Safety Data Sheet instructions and SANS requirements. Due to the fire risk associated with fuel storage, it was further recommended by the municipality that the installation should not be within 50 m from an existing fuel storage facility. The nearest existing fuel storage facility is situated approximately 65 m from the proposed location.

## 9.5 HEALTH

Hydrocarbons are carcinogenic and dermal contact and inhalation of fumes should be prevented.

## 9.6 SOCIO-ECONOMIC IMPACTS

Construction activities at the consumer fuel installation will provide employment opportunities and some training and skills development may ensue. The consumer fuel installation will indirectly contribute to sustaining the daily operations of CTI Mechanic Installation & Maintenance and thus its employee base.

# 10 ASSESSMENT AND MANAGEMENT OF IMPACTS

The purpose of this section is to assess and identify the most pertinent environmental impacts that are expected from the construction, operational and potential decommissioning activities of the proposed facility. An EMP based on these identified impacts are also incorporated into this section.

For each impact an environmental classification was determined based on an adapted version of the Rapid Impact Assessment Method (Pastakia, 1998). Impacts are assessed according to the following categories: Importance of condition (A1); Magnitude of Change (A2); Permanence (B1); Reversibility (B2); and Cumulative Nature (B3) (see Table 10-1)

Ranking formulas are then calculated as follow:

$$\text{Environmental Classification} = A1 \times A2 \times (B1 + B2 + B3)$$

The environmental classification of impacts is provided in Table 10-2.

The probability ranking refers to the probability that a specific impact will happen following a risk event. These can be improbable (low likelihood); probable (distinct possibility); highly probable (most likely); and definite (impact will occur regardless of prevention measures).

**Table 10-1. Assessment criteria**

<b>Criteria</b>	<b>Score</b>
<b>Importance of condition (A1) – assessed against the spatial boundaries of human interest it will affect</b>	
Importance to national/international interest	4
Important to regional/national interest	3
Important to areas immediately outside the local condition	2
Important only to the local condition	1
No importance	0
<b>Magnitude of change/effect (A2) – measure of scale in terms of benefit/disbenefit of an impact or condition</b>	
Major positive benefit	3
Significant improvement in status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in status quo	-1
Significant negative disbenefit or change	-2
Major disbenefit or change	-3
<b>Permanence (B1) – defines whether the condition is permanent or temporary</b>	
No change/Not applicable	1
Temporary	2
Permanent	3
<b>Reversibility (B2) – defines whether the condition can be changed and is a measure of the control over the condition</b>	
No change/Not applicable	1
Reversible	2
Irreversible	3
<b>Cumulative (B3) – reflects whether the effect will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition – not to be confused with the permanence criterion.</b>	
Light or No Cumulative Character/Not applicable	1
Moderate Cumulative Character	2
Strong Cumulative Character	3



**Table 10-2. Environmental classification (Pastakia 1998)**

Environmental Classification	Class Value	Description of Class
72 to 108	5	Extremely positive impact
36 to 71	4	Significantly positive impact
19 to 35	3	Moderately positive impact
10 to 18	2	Less positive impact
1 to 9	1	Reduced positive impact
0	-0	No alteration
-1 to -9	-1	Reduced negative impact
-10 to -18	-2	Less negative impact
-19 to -35	-3	Moderately negative impact
-36 to -71	-4	Significantly negative impact
-72 to -108	-5	Extremely Negative Impact

### 10.1 RISK ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

The EMP provides management options to ensure impacts of the facility is minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The environmental management measures are provided in the tables and descriptions below. These management measures should be adhered to during the various phases of the operation of the facility. This section of the report can act as a stand-alone document. All personnel taking part in the operations of the facility should be made aware of the contents in this section, so as to plan the operations accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- ◆ to include all components of construction activities and operations of the facility;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- ◆ to monitor and audit the performance of operational personnel in applying such controls; and
- ◆ to ensure that appropriate environmental training is provided to responsible operational personnel.

Various potential and definite impacts will emanate from the operations and decommissioning phases. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the operational phase are expected to mostly be of medium to low significance and can mostly be mitigated to have a low significance. The extent of impacts are mostly site specific to local and are not of a permanent nature. Due to the nature of the surrounding areas, cumulative impacts are possible and include groundwater contamination and traffic impacts.

### 10.1.1 Planning

During the phases of planning for construction, operations and decommissioning of the proposed facility, it is the responsibility of the proponent to ensure they are and remain compliant with all legal requirements. The proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- ◆ Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the construction activities and operations of the project are in place and remains valid. This includes the consumer installation certificate and municipal approvals.
- ◆ Ensure that design parameters, where required, is approved by relevant authorities prior to construction of the facility.
- ◆ Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present on site.
- ◆ Make provisions to have a Health, Safety and Environmental (HSE) Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- ◆ Have the following emergency plans, equipment and personnel on site where reasonable to deal with all potential emergencies:
  - Risk management/mitigation/EMP/ emergency response plan and HSE manuals
  - Adequate protection and indemnity insurance cover for incidents;
  - Comply with the provisions of all relevant safety standards;
  - Procedures, equipment and materials required for emergencies.
- ◆ Establish and maintain a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.
- ◆ Establish and/or maintain a reporting system to report on aspects of construction activities, operations and decommissioning as outlined in the EMP.
- ◆ Submit bi-annual reports to the MEFT to allow for environmental clearance certificate renewal after three years. This is a requirement by MEFT.
- ◆ Appoint a specialist environmental consultant to update the EA and EMP and apply for renewal of the environmental clearance certificate prior to expiry.

### 10.1.2 Skills, Technology and Development

Various levels of unskilled to skilled labour will be used during the construction phase. Some skills transfer to unskilled workers may result. Some employment will be provided for the operations of the fuel installation. Income through salaries and wages will increase local spending power. Employment will be sourced locally while skilled labour/contractors may be sourced from other regions.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Employment	2	1	2	2	2	12	2	Probable
Daily Operations	Employment	2	1	2	3	2	14	2	Definite

**Desired Outcome:** Employment and development of local Namibians and increase in their spending power through receipt of wages and salaries.

#### Actions

##### **Mitigation:**

- ◆ The proponent must employ local Namibians where possible.
- ◆ If the skills exist locally, employees must first be sourced from the town, then the region and then nationally.
- ◆ Deviations from this practice must be justified.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Summary report based on employee records..
- ◆ Bi-annual summary reports on all training conducted.

### 10.1.3 Demographic Profile and Community Health

The project relies on labour for construction and operations. The scale of the project is limited and it is not foreseen that it will create a change in the demographic profile of the local community. Community health may be exposed to factors such as communicable disease like HIV/AIDS and alcoholism/drug abuse, especially during the construction phase when an increase in foreign people in the area may potentially increase the risk of criminal and socially/culturally deviant behaviour.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	In-migration and social ills related to unemployment	2	-1	1	1	2	-8	-1	Probable
Daily Operations	In-migration and social ills related to unemployment	2	-1	1	2	1	-8	-1	Probable

**Desired Outcome:** To prevent the in-migration and growth in informal settlements, prevent the spread of communicable disease and prevent/discourage socially deviant behaviour.

#### **Actions:**

##### **Prevention:**

- ◆ Employ only local people from the area, deviations from this practice should be justified appropriately.
- ◆ Adhere to all municipal by-laws relating to environmental health which include, but is not limited to, ablution and sanitation requirements.

##### **Mitigation:**

- ◆ Educational programmes for employees on HIV/AIDs and general upliftment of employees' social status.
- ◆ Appointment of reputable contractors.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- ◆ Bi-annual summary report based on educational programmes and training conducted.
- ◆ Bi-annual report and review of employee demographics.

#### 10.1.4 Fuel Supply

The operations of the installation will aid in securing fuel supply to the fleet and construction vehicles of CTI Mechanic Installation & Maintenance and partner companies. This will aid in the efficiency of the operations of the proponent.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Contribution to the efficiency of the proponent	3	1	3	2	1	18	2	Definite

**Desired Outcome:** Ensure a secure fuel supply remains available to the proponent and partner companies.

#### **Actions**

##### **Mitigation:**

- ◆ Ensure compliance to the petroleum regulations of Namibia.
- ◆ Proper management to ensure constant supply.
- ◆ Record supply problems and take corrective actions.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Record supply problems and corrective actions taken and compile a bi-annual summary report.

### 10.1.5 Traffic

CTI Mechanic Installation and Maintenance itself may have resulted in increased traffic flow in the adjacent streets, especially Grand Avenue. As the majority of vehicles collecting fuel will already be present at the site as part of the operations of the proponent, operations of the consumer fuel installation is not expected to result in a significant increase in traffic impacts apart from infrequent fuel deliveries. The use of separate entrance and exit gates to gain access to and from the site during periods of high traffic volumes will aid in alleviating possible traffic impacts. By providing fuel to fleet and construction vehicle on site in the light industrial area, the amount of vehicles needing to refuel in town will be reduced. This will mitigate traffic impacts at the already congested fuel retail facilities in town. Construction activities may however result in minor traffic impacts.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Delivery of equipment and building supplies	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Increase traffic, road wear and tear and accidents	2	-1	2	2	2	-12	-2	Probable

**Desired Outcome:** Minimum impact on traffic and no transport or traffic related incidents.

#### **Actions**

##### **Prevention:**

- ◆ Erect clear signage regarding access and exit points at the facility.

##### **Mitigation:**

- ◆ Tanker trucks delivering fuel and trucks collecting fuel should not be allowed to obstruct any traffic of entrances/exits of facilities in surrounding streets.
- ◆ Trucks entering and exiting the facility should not be allowed to make sharp turns on Grand Avenue, as this may result in traffic issues and damage to the road infrastructure.
- ◆ If any traffic impacts are expected, traffic management should be performed to prevent these.

##### **Responsible Body:**

- ◆ Contractor
- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- ◆ A bi-annual report should be compiled of all incidents reported, complaints received, and action taken.

### 10.1.6 Health, Safety and Security

Activities associated with the construction and operational phases are reliant on human labour and therefore exposes them to health and safety risks. Activities such as the operation of machinery and handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), poses the main risks to employees. Security risks are related to unauthorized entry, theft and sabotage.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Physical injuries, exposure to chemicals and criminal activities	1	-2	3	3	1	-14	-2	Probable
Daily Operations	Physical injuries, exposure to chemicals and criminal activities	1	-2	3	3	2	-16	-2	Probable

**Desired Outcome:** To prevent injury, health impacts and theft.

#### **Actions**

##### **Prevention:**

- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products.
- ◆ Equipment that will be locked away on site must be placed in a way that does not encourage criminal activities (e.g. theft).
- ◆ Provide all employees with required and adequate personal protective equipment (PPE).
- ◆ Ensure that all personnel receive adequate training on operation of equipment/handling of hazardous substances.
- ◆ All health and safety standards specified in the Labour Act should be complied with.
- ◆ Implementation of maintenance register for all equipment and fuel/hazardous substance storage areas.

##### **Mitigation:**

- ◆ Selected personnel should be trained in first aid and a first aid kit must be available on site. The contact details of all emergency services must be readily available.
- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes: colour coding of pipes, operational, safe work and medical procedures, permits to work, emergency response plans, housekeeping rules, MSDS's and signage requirements (PPE, flammable etc.).
- ◆ Strict security that prevents unauthorised entry during construction phases.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Any incidents must be recorded with action taken to prevent future occurrences.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained.

### 10.1.7 Fire

Operational and maintenance activities may increase the risk of the occurrence of fires. The site is located developed area which may increases the difficulty of fighting fires. The facility will only store diesel which is not as flammable as more volatile fuels. Due to the fire risk associated with fuel storage, it was further recommended by the municipality that the installation should not be within 50 m from an existing fuel storage facility. The nearest existing fuel storage facility is situated approximately 65 m from the proposed location with adequate space for firefighting.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Fire and explosion risk	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Fire and explosion risk	1	-2	2	2	1	-10	-2	Probable

**Desired Outcome:** To prevent property damage, possible injury and impacts caused by uncontrolled fires.

#### **Actions:**

##### **Prevention:**

- ◆ Ensure all chemicals are stored according to MSDS and SANS instructions.
- ◆ Maintain regular site, mechanical and electrical inspections and maintenance.
- ◆ Clean all spills/leaks.
- ◆ Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990).
- ◆ Follow SANS standards for design, operation and maintenance of the facility, this includes refuelling locations and distances from boundaries.
- ◆ All dispensers must be equipped with devices that cut fuel supply during fires.
- ◆ The proponent should liaise with the local Fire Brigade to ensure that all fire requirements are met. This includes, but is not limited to SANS 10400 T: 2011.

##### **Mitigation:**

- ◆ A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan.
- ◆ Maintain firefighting equipment, good housekeeping and personnel training (firefighting, fire prevention and responsible housekeeping practices).

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- ◆ A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given.



### 10.1.8 Air Quality

Fuel vapours are released into the air during refuelling of the storage tank as well as at filling point. Prolonged exposure may have carcinogenic effects. Dust may be generated during construction.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive dust generated from maintenance and upgrade activities	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Fuel vapours	1	-1	2	2	1	-5	-1	Probable

**Desired Outcome:** To prevent health impacts and minimise the dust generated.

#### Actions

##### **Mitigation:**

- ◆ Personnel issued with appropriate masks where excessive dust or vapours are present.
- ◆ A complaints register should be kept for any dust related issues and mitigation steps taken to address complaints where necessary e.g. dust suppression.
- ◆ Employees should be coached on the dangers of fuel vapours.
- ◆ Vent pipes must be properly placed as per SANS requirements.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ Any complaints received regarding dust or fuel vapours should be recorded with notes on action taken.
- ◆ All information and reporting to be included in a bi-annual report.

### 10.1.9 Noise

Construction (including maintenance and upgrades) may generate noise. This will be a temporary impact. During operations, noise pollution will be limited and may be related to vehicles accessing the site to offload fuel and during maintenance activities. As the site is situated in a light industrial area, noise impacts is not expected to negatively impacts surrounding land users and will mostly be related to possible hearing loss of onsite personnel.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive noise generated from construction activities – nuisance and hearing loss	1	-1	2	2	1	-5	-1	Probable
Daily Operations	Noise generated from the operational activities – nuisance	1	-1	2	2	2	-6	-1	Probable

**Desired Outcome:** To prevent any nuisance and hearing loss due to noise generated.

#### Actions

##### **Prevention:**

- ◆ Follow World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.
- ◆ All machinery must be regularly serviced to ensure minimal noise production.

##### **Mitigation:**

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ WHO Guidelines.
- ◆ Maintain a complaints register.
- ◆ Report on complaints and actions taken to address complaints and prevent future occurrences.

### 10.1.10 Waste production

Waste will be produced during the construction and operational phase. Waste may include hazardous waste associated with the handling of hydrocarbon products etc. Waste presents a contamination risk and when not removed regularly may become a fire hazard. Construction waste may include building rubble and discarded equipment contaminated by hydrocarbon products. Contaminated soil and water is considered as a hazardous waste.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive waste production, littering, illegal dumping, contaminated materials	1	-2	2	2	2	-12	-2	Definite
Daily Operations	Excessive waste production, littering, contaminated materials	1	-2	2	2	2	-12	-2	Definite

**Desired Outcome:** To reduce the amount of waste produced, and prevent pollution and littering.

#### Actions

##### **Prevention:**

- ◆ Waste reduction measures should be implemented and all waste that can be re-used/recycled must be kept separate.
- ◆ Ensure adequate temporary waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of waste.
- ◆ All regulation and by-laws relating to environmental health should be adhered to.

##### **Mitigation:**

- ◆ Waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).
- ◆ The spill catchment traps should be cleaned regularly and waste disposed of appropriately. Surfactants (soap) may not be allowed to enter the oil water separator (where present).
- ◆ See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.
- ◆ Liaise with the municipality regarding waste and handling of hazardous waste.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- ◆ Any complaints received regarding waste should be recorded with notes on action taken.
- ◆ The oil water separator (where present) must be regularly inspected and all hydrocarbons removed once detected. Outflow water must comply with effluent quality standards.
- ◆ All information and reporting to be included in a bi-annual report.

### 10.1.11 Ecosystem and Biodiversity Impact

The nature of the operational activities is such that the probability of creating a habitat for flora and fauna to establish is low. No significant impact on the biodiversity of the area is predicted as the site is currently void of natural fauna and flora. Impacts are therefore mostly related to pollution of the environment as well as potential impacts of bright lights on birds flying at night.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Impact on fauna and flora. Loss of biodiversity	1	-1	3	2	2	-7	-1	Improbable
Daily Operations	Impact on fauna and flora. Loss of biodiversity	1	-1	3	2	2	-7	-1	Improbable

**Desired Outcome:** To avoid pollution of and impacts on the ecological environment.

#### Actions.

##### **Mitigation:**

- ◆ Report any extraordinary animal sightings to the Ministry of Environment and Tourism.
- ◆ Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- ◆ Avoid scavenging of waste by fauna.
- ◆ Direct all lights down to working surfaces and use minimal lighting at night.
- ◆ The establishment of habitats and nesting sites at the facility should be avoided where possible.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ All information and reporting to be included in a bi-annual report.

### 10.1.12 Groundwater, Surface Water and Soil Contamination

Operations entail the storage and handling of diesel which presents a contamination risk. Contamination may either result from failing storage facilities, or spills and leaks associated with overfilling or human error. Such spills may contaminate surface water, soil and groundwater.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Contamination from hazardous material spillages and hydrocarbon leakages	2	-1	2	2	1	-10	-2	Probable
Daily Operations	Contamination from hazardous material spillages and hydrocarbon leakages	2	-1	2	2	1	-10	-2	Probable

**Desired Outcome:** To prevent the contamination of water and soil.

#### **Actions**

##### **Prevention:**

- ◆ Spill control structures and procedures must be in place according to SANS standards or better.
- ◆ All fuelling should be conducted on surfaces provided for this purpose. E.g. Concrete slabs with regularly maintained seals between slabs.
- ◆ The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.
- ◆ Proper training of operators must be conducted on a regular basis (fuel handling, spill detection, spill control).

##### **Mitigation:**

- ◆ Any spillage of more than 200 litre must be reported to the Ministry of Mines and Energy.
- ◆ Spill clean-up means must be readily available on site as per the relevant MSDS.
- ◆ Any spill must be cleaned up immediately.
- ◆ The spill catchment traps should be cleaned regularly and waste disposed of at a suitably classified hazardous waste disposal facility.
- ◆ Surfactants (soap) may not be allowed to enter an oil water separator (where present) e.g. soap usage on spill control surfaces.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A report should be compiled bi-annually of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, comparison of pre-exposure baseline data (previous pollution conditions survey results) with post remediation data (e.g. soil/groundwater hydrocarbon concentrations) and a copy of documentation in which spill was reported to Ministry of Mines and Energy.

### 10.1.13 Visual Impact

This impact is not only associated with the aesthetics of the site, but also the structural integrity. The facility will form part of the existing site, within a fenced area and will have a minimal impact regarding aesthetics.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Aesthetic appearance and integrity of the site	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Aesthetic appearance and integrity of the site	1	-1	2	2	2	-6	-1	Probable

**Desired Outcome:** To minimise aesthetic impacts associated with the facility.

#### **Actions**

##### **Mitigation:**

- ◆ Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A maintenance record should be kept.
- ◆ A report should be compiled of all complaints received and actions taken.

#### 10.1.14 Impacts on Utilities and Infrastructure

Construction activities such as excavation and heavy vehicles accessing the site may lead to accidental damage to utilities and infrastructure, which in turn may lead to interruption of services such as water and electricity supply to the area.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction Phase	Disruption of services and damage to infrastructure	2	-2	2	2	1	-20	-3	Probable
Daily Operations	Disruption of services and damage to infrastructure	2	-1	2	2	1	-10	-2	Improbable

**Desired Outcome:** No impact on utilities and infrastructure.

#### **Actions**

##### **Prevention:**

- ◆ Appointing qualified and reputable contractors is essential.
- ◆ The contractor must determine exactly where amenities and pipelines are situated before construction commences (utility clearance e.g. ground penetrating radar surveys).
- ◆ Liaison with the suppliers of services is essential.

##### **Mitigation:**

- ◆ Emergency procedures for corrective action available on file.

##### **Responsible Body:**

- ◆ Proponent
- ◆ Contractors

##### **Data Sources and Monitoring:**

- ◆ A report should be compiled every 6 months of all incidents that occurred and corrective action taken.

### 10.1.15 Cumulative Impact

Possible cumulative impacts associated with the operational phase include increased traffic in the area. This will have a cumulative impact on traffic flow on surrounding streets.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	The build-up of minor impacts to become more significant	2	-2	2	2	2	-24	-3	Probable

**Desired Outcome:** To minimise cumulative all impacts associated with the facility.

#### **Actions**

##### **Mitigation:**

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.

##### **Responsible Body:**

- ◆ Proponent

##### **Data Sources and Monitoring:**

- ◆ Bi-annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.



## 10.2 DECOMMISSIONING AND REHABILITATION

Decommissioning is not foreseen during the validity of the environmental clearance certificate. Decommissioning was however assessed as construction activities include modification and decommissioning. Should decommissioning occur at any stage, rehabilitation of the area may be required. Decommissioning will entail the complete removal of all infrastructure including buildings and underground infrastructure. Any pollution present on the site must be remediated. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. Future land use after decommissioning should be assessed prior to decommissioning and rehabilitation initiated if the land would not be used for future purposes. The EMP for the facility will have to be reviewed at the time of decommissioning to cater for changes made to the site and implement guidelines and mitigation measures.

## 10.3 ENVIRONMENTAL MANAGEMENT SYSTEM

The proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual 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 elements:

- ◆ 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, lines of communication and resources needed to implement the EMS;
- ◆ Identification of environmental, safety and health training needs;
- ◆ An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy; and
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.
- ◆ The EMP

## 11 CONCLUSION

The consumer fuel installation will have a positive impact on the operations of CTI Mechanic Installation & Maintenance cc and partner companies by ensuring a reliable supply of fuel is available to fleet and construction vehicles, see Table 11-1. In addition to reliable and convenient fuel supply, the facility indirectly contributes locally to skills transfer and training which in turn develops the local workforce, especially during the construction phase.

Negative impacts can successfully be mitigated. SANS standards relating to the petroleum industry and prescribed by Namibian law must be followed during all operations of the consumer fuel installation. Noise pollution should at all times meet the prescribed WHO requirements to prevent hearing loss and not to cause a nuisance. Fire prevention should be adequate, and health and safety regulations should be adhered to in accordance with the regulations pertaining to relevant laws and internationally accepted standards of operation. Any waste produced must be removed from site and disposed of at an appropriate facility or re-used or recycled where possible. Hazardous waste must be disposed of at an approved hazardous waste disposal site.

The EMP (Section 10) should be used as an on-site reference document for the operations of the facility. Parties responsible for transgressing of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The proponent could use an in-house Health, Safety, Security and Environment Management System in conjunction with the EMP. All operational personnel must be taught the contents of these documents.

Should the Directorate of Environmental Affairs (DEA) of the MEFT find that the impacts and related mitigation measures, which have been proposed in this report, are acceptable, an environmental clearance certificate may be granted to the proponent. The environmental clearance certificate issued, based on this document, will render it a legally binding document which should be adhered to. Focus could be placed on Section 10, which includes an EMP for this project. It should be noted that the assessment process's aim is not to stop the proposed activity, or any of its components, but to rather determine its impact and guide sustainable and responsible development as per the spirit of the EMA.

**Table 11-1. Impact summary class values**

Impact Category	Impact Type	Construction	Operations
<i>Positive Rating Scale: Maximum Value</i>		5	5
<i>Negative Rating Scale: Maximum Value</i>		-5	-5
EO	10.1.2 Skills Transfer, Employment and Income	2	2
SC	Demographic Profile and Community Health	-1	-1
EO	Fuel Supply		2
SC	Traffic	-2	-2
SC	Health, Safety and Security	-2	-2
PC	Fire	-2	-2
PC	Air Quality	-1	-1
PC	Noise	-1	-1
PC	Waste Production	-2	-2
BE	Ecosystem and Biodiversity Impact	-1	-1
PC/BE	Groundwater, Surface Water and Soil Contamination	-2	-2
SC	Visual Impact	-1	-1
PC/SC	Impacts on Utilities, Infrastructure and Seabed Scouring	-3	-2
PC	Cumulative Impact	-3	-3

BE = Biological/Ecological      EO = Economical/Operational      PC = Physical/Chemical      SC = Sociological/Cultural

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## **Appendix A: Town Planning Scheme Provisions: Light Industrial Areas**



**CLAUSE 20 LIGHT INDUSTRIAL ZONE**

**20.1. Colour Notation:** Dark Pink Fill

**Primary Uses:** Light Industry, Service Industry, Service Station, Warehouse, Storage Premises, Building Yard, Office Premises.

**Consent Uses:** Panel Beating, Scrap Yard, Business Premises, Retail, Caretaker Unit, Place of Instruction, Place of Amusement, Funeral Parlour, Restaurant.

**20.2. Land Use Restrictions**

**20.2.1 Consent:**

20.2.1.1 Notwithstanding the generality of the provisions of Clauses 6 to 11, concerning the granting of Consent by Council for the consent uses listed in Table B and in Clause 20.1, Council shall not grant its consent for a period of more than 5 years in respect of Retail or a Place of Instruction or Place of Amusement.

Provided, further, that any Consent granted by Council, unless specified as part of the approval, shall not imply an approval to increase in the coverage, bulk, density or height restrictions which are applicable for the light industrial zone in terms of Clauses 20.2 of the Scheme.

**20.2.1.2 In a situation:**

- (a) where application has been made to Council for a rezoning in terms of the Town Planning Ordinance of 1954 (Ordinance 18 of 1954) as amended; and
- (b) where the land use required in terms of the rezoning is listed as a consent use in Table B and in Clause 20.1 for the light industrial zone

Then, upon application, the Council may grant permission for the applicant to proceed with the development while the rezoning is in progress.

**20.2.2 Coverage:**

20.2.2.1. Save with the permission of Council, no building shall be erected so as to cover a greater percentage of the site than;  
in the case of all buildings: 75%

Provided that the following shall not be included in the calculation of the coverage:

- (i) any basements situated under street level;
- (ii) external stairs and motor vehicle ramps;
- (iii) balconies and projections of not more than 1,5 metres;
- (iv) eaves of not more than 1,5 metres;
- (v) parking areas used for the parking of motor- and other similar vehicles by the owner and/or tenants of the building on the site;

20.2.2.2. Where a proposed building is designed for more than one use, the maximum percentage of the site to be occupied by the buildings at the floor level of each storey shall comply with the limits prescribed in Clause 20.2.2.1 in respect of the use or uses of each storey.

**20.2.3 Bulk**

20.2.3.1 No building in the Light Industrial zone shall be erected if the bulk exceeds that depicted on the Scheme Bulk Map or a factor of 1,5, whichever is the lower. In those areas where no bulk has been specified, appropriate bulk factors may be imposed by Council in accordance with the following Table:

LAND OR BUILDING USE	MAXIMUM BULK FACTOR
Retail, Business Premises, Office Premises, Place of Instruction, Place of Amusement, Light Industry, Service Industry, Warehouse, Service Station, Building Yard, Panel Beating.	1.5
Storage Premises Restaurant, Funeral Parlour, Scrap Yard.	1.0
Caretaker Unit.	0.5

20.2.3.2 Council may consent to an increase in bulk up to a maximum of 1,5 if it is satisfied that the applicant has furnished sufficient evidence that the greater bulk is necessary and desirable. Council shall, in considering the application, have regard to the impact, real or potential, which the additional bulk will have on the neighbouring properties.



**20.2.4 Density**

Density control does not apply in the light industrial zone.

**20.2.5 Minimum Erf Size**

20.2.5.1 The maximum prescribed erf sizes for the Light Industrial zone are in accordance with the following Table:

LAND OR BUILDING USE	MINIMUM SIZE OF ERF (m <sup>2</sup> )
Scrap Yard Building Yard Panel Beating Place of Instruction	1000
All other Uses	No prescribed minimum

20.2.5.2 Notwithstanding the limits laid down in the above Table, Council may, in certain cases beyond the control of the applicant, give its consent for any of the listed building uses to be constructed on erven which are smaller than the prescribed minimum.

**20.2.6 Height:**

No height restriction is applicable in the Light Industrial zone, provided that the building will be subject to bulk and coverage restrictions and provided further that any building designed to exceed three storeys shall require the consent of Council. Council shall, in considering any application for a height above three storeys, have regard to the impact, real or potential, which the additional height will have on the neighbouring properties.

**20.2.7 Building Lines:**

20.2.7.1 Within the Light Industrial Zone, no building, permanent structure or portion thereof, inclusive of swimming pools but excluding boundary walls and fences, may be erected on the erf within:

- (i) six (6) metres from any street boundary. The minimum requirement shall be measured from the external walls of the building under consideration;
- (ii) three (3) metres from any rear boundary. The building line requirement shall be measured from the external walls of the building under consideration
- (iii) three (3) metres from any lateral boundary. The building line requirement shall be measured from the external walls of the building under consideration

20.2.7.2 Council may, subject to any considerations it deems necessary, relax the provisions of clause 20.2.7.1, provided that such relaxation of the building line shall only be granted on, at most, two boundaries, and provided further that, before Council considers any application for the relaxation of building lines, the applicant shall obtain the written agreement or comment of the owners of all contiguous properties.

20.2.7.3 No wall or any portion of the floor area of a basement may be erected beyond the outside wall of the main building or outbuilding in this zone.

20.2.7.4 Where any land is reserved for a new street or a street widening in terms of Clause 5 of this Scheme, the building line shall be determined as if such new street or street widening was in fact an existing street.

20.2.7.5 Notwithstanding the foregoing, where a building line is shown on the Map, such building line shall apply.

20.2.7.6 Where a building line is fixed under clause 20.2.7 of this Scheme, no building other than temporary buildings erected in connection with building operations or buildings permitted in pursuance of sub clause 5.1 of this Scheme shall hereafter be erected on the land between the building line and the street boundary and no goods, merchandise, wares or other obstructions shall be placed, deposited, kept or displayed on the area between the street boundary and any such building line.

20.2.7.7 With the consent of the Council or the Competent Authority, a building (with opening windows overlooking the neighbouring property) can be erected on a common border with a Public Open Space.

20.2.7.8 In addition to the setback of a building from a street boundary stipulated in Clause 20.2.7.1 (i), fuel pumps shall be set back an additional four (4) metres from any street boundary.

**20.2.8 Parking**

20.2.8.1 Except where specified elsewhere in the scheme, when a building is to be erected on an erf within the Light Industrial zone, the owner thereof shall construct and maintain, at his own expense and to the satisfaction of the Council, parking spaces on the erf, as set out in the Table below.





## **Appendix B: Proof of Public Consultation**



**Notified Interested and or Affected Parties**

<b>Name</b>	<b>Position</b>	<b>Organisation</b>
T. Kathundi	Fire Brigade	Municipality of Walvis bay
David Uushona	Manager (SWEM)	Municipality of Walvis Bay
Lovisa Hailaula	Environmental	Municipality of Walvis Bay
Nangula Amatsi	Environmental Coordinator	Municipality of Walvis Bay
Deville Dreyer	Environmental Health	Municipality of Walvis Bay
Stefanus Gariseb	Environmental	Namibian Ports Authority (NAMPORT)
WBS	Administration	Walvis Bay Stevedoring
Leatitia Kahona	Secretary of the CEO	Municipality of Walvis Bay

**Registered IAPs**

<b>Name</b>	<b>Organisation</b>	<b>Date Registered</b>
T. Kathundi	Municipality of Walvis Bay	22 April 2021
David Uushona	Municipality of Walvis Bay	22 April 2021
Lovisa Hailaula	Municipality of Walvis Bay	22 April 2021
Nangula Amatsi	Municipality of Walvis Bay	22 April 2021
Deville Dreyer	Municipality of Walvis Bay	22 April 2021

**Notification: Municipality of Walvis Bay**

TEL.: (+264-61) 257411 ♦ FAX.: (+264) 88626368  
 CELL.: (+264-81) 1220082  
 PO BOX 11073 ♦ WINDHOEK ♦ NAMIBIA  
 E-MAIL: gpt@thenamib.com

To: Interested and Affected Parties 21 April 2021

Re: Environmental Scoping Assessment and Environmental Management Plan for the Construction and Operational Activities of a Consumer Fuel Installation on erf 4896, Walvis Bay

Dear Sir/Madam

In terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (Government Notice No 30 of 2012), notice is hereby given to all potential interested and/or affected parties (IAPs) that an application will be made to the Environmental Commissioner for an environmental clearance certificate for the following project:

**Project:** Environmental Scoping Assessment and Environmental Management Plan for the Construction and Operational Activities of a Consumer Fuel Installation on erf 4896, Walvis Bay.

**Proponent:** CTI Mechanic Installation & Maintenance cc

**Environmental Assessment Practitioner:** Geo Pollution Technologies (Pty) Ltd

CTI Mechanic Installation & Maintenance cc intends to construct and operate a consumer fuel installation on erf 4896 in the industrial area of Walvis Bay. The facility will supply diesel to operational and fleet vehicles of CTI Mechanic Installation & Maintenance cc and Shacman Investment Namibia cc. The installation will consist of one 200 m<sup>3</sup> aboveground steel tank inside an adequately sized concrete bund area. Fuel will be dispensed to vehicles on a concrete spill slab with catchment pits. The installation will be constructed according to South African National Standards (SANS) as prescribed by Namibian law. General operations will involve the receipt of fuel from road tankers, dispensing fuel to fleet vehicles, and day to day administrative tasks.

Geo Pollution Technologies (Pty) Ltd was requested to conduct an environmental assessment for the proposed facility. As part of the assessment we consult with IAPs who are invited to register with the environmental consultant to receive further documentation and communication regarding the project. By registering, IAPs will be provided with an opportunity to provide input that will be considered in the drafting of the environmental assessment report and its associated management plan.

Please register as an IAP and provide comments by **05 May 2021**.

To register, please contact:  
 Email: [cti@thenamib.com](mailto:cti@thenamib.com)  
 Fax: 088-62-6368

Should you require any additional information please contact Geo Pollution Technologies at telephone 081-1452164 / 061-257411.

Thank you in advance.

Sincerely,  
 Geo Pollution Technologies

Wikus Coetzer  
 Environmental Assessment Practitioner

Received:  
 Laetitia  
 02/04/2021.

Directors:

Page 1 of 2  
 P. Botha (B.Sc. Hons. Hydrogeology) (Managing)

**Notification Letter Delivery Sheet**



Public Consultation - Notification: Environmental Assessment for the Construction and Operational Activities of a Consumer Fuel Installation on erf 4896, Walvis Bay

Name & Surname	Organisation / Address	Tel / Mobile	Email	Signature
Ornocholi Sedwaba	Hij Creek Avenue, Industria		Privacy Block	
Francois Bou	31 Grand Ave.			
F.P.S	H:11 P3 HANUWIERIA			
Namithia Oriental Tobacco	8111111111			
Breth. Feach	BHL Namibia			
Janine Robinson	Southey Namibia			

Consumer Fuel Installation – Walvis Bay – April 2021 Geo Pollution Technologies





Press Notice: The Namibian Sun 21 and 28 April 2021

Sun

WEDNESDAY 21 APRIL 2021 NEWS 5

• A PLATFORM FOR RURAL DEVELOPMENT

# Nearly half of Namibia under conservation

A total of 45.6% of Namibia's land surface is under conservation, according to a report released by the Department of Environment and Forestry Affairs (DEFA) on Thursday.

DEFA's head of corporate communications, John Johnson, thanked DBN for the opportunity to present the findings at the bank's annual general meeting on Thursday.

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**PUBLIC PARTICIPATION NOTICE**  
**ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL INSTALLATION IN WALVIS BAY**

Geo Pollution Technologies (Pty) Ltd was appointed by CTI Mechanic Installation & Maintenance cc to undertake an environmental assessment for the construction and operations of a Consumer Fuel Installation on erf 4896, Grand Avenue, Walvis Bay. Background information for the project, containing a location map, is available at: [www.thenamib.com/projects/projects.html](http://www.thenamib.com/projects/projects.html)

The environmental assessment will be according to the Environmental Management Act of 2007 and its regulations as published in 2012.

The consumer fuel installation will consist of one aboveground, bunded storage tank of 200 m<sup>3</sup>, connected to a dispenser on a spill control slab. Operations will involve the receipt of diesel from road tankers, dispensing fuel to construction and fleet vehicles and administrative tasks like tank dips and fuel volume reconciliations.

All interested and affected parties are invited to register with the environmental consultant. By registering you are provided with an opportunity to share any comments, issues or concerns related to the facility, for consideration in the environmental assessment. Additional information can be requested from Geo Pollution Technologies.

All comments and concerns should be submitted to Geo Pollution Technologies by 05 May 2021.

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**247**

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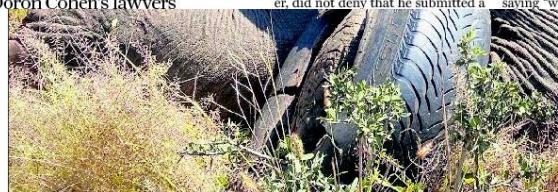
Sun

WEDNESDAY 28 APRIL 2021 NEWS 3

• EDITOR REFUSES TO RETRACT STORY

# Israeli diamantaire threatens to sue

Nuska Technologies' Doron Cohen's lawyers did not deny that he submitted a saying "we will not retract our story company which was handpicked in wide ranges, where they be- wondrous and majestic or all of long, undisturbed by man," Africa's species."



**THROUGH 'PROBLEM' ELEPHANT HUNT**

ELLANIE SMIT WINDHOEK

A rogue elephant that was hunted this weekend would have died a painful death if it was not killed by a professional hunter.

A total of N\$127 500 was raised to hunt the problem elephant in the area between Oujwarongo and Otavi, where the animal damaged fences on farms as well as in the Waterberg National Park.

However, professional hunter Jofie Lamprecht has denied reports that he hunted this elephant over the weekend. Lamprecht confirmed that the animal was ethically and cleanly hunted on a permit under the guidance of a registered Namibian professional hunter from another company with his international client. Of the proceeds raised from

**MERCY KILLING:** The car tyre that was caught on the 'problem' elephant's foot, resulting in abscesses. PHOTO: CONTRIBUTED

the hunt, N\$20 000 will go to the environment ministry's game products trust fund, while N\$107 500 will go to the Platveld Farmers Association for damage caused by the elephant. All the funds were handled through a lawyer's trust bank account and can be fully accounted for, Lamprecht said.

**Relocation not possible**  
 He added that the destruction of fences in the area, where disease-free buffalo occur, puts buffalo at risk of being infected by cattle-borne diseases.

"This is unacceptable for this valuable Namibian natural resource," he said.

On why the elephant was not relocated instead of being put down, Lamprecht said since Namibia's elephant population is already well above sustainable numbers in most of their ranges, moving the animal would have harmed the biodiversity and environment. "At what cost would this elephant have been removed by darting and translocating it, and to what end?"

He stressed that the elephant bull was not collared and further said it had a car tyre stuck around its right foot.

"Abscesses had already formed and it is the opinion of several people that this tyre would not have come off unless, at great cost, the elephant was sedated and the tyre removed.

Lamprecht said the injury to the elephant's foot would, however, have caused the animal great pain and a prolonged suffering.

**Maintaining wildlife populations**  
 "Problem animals in Namibia will continue to occur, and we can only hope to raise revenue with these animals to cover the damage caused. We have reduced these animals' home-range, which is as humans' fault, with many large mam-

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Press Notice: Die Republiek 21 and 28 April 2021

2 NUUS

Republiek

Woensdag 21 April 2021

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WEER

**BINNELAND:** Gedeeltelik bewolk en warm tot baie warm. Verspreide buie word vanaf Vrydag vir Kunene, Erongo, Khomas, Otjozondjupa en Hardap voorspel.

VOORUITSIGTE

WINDHOEK		11°	27°
RUNDU		15°	30°
OSHAKATI		18°	29°
GOBABIS		10°	28°
MARIENTAL		16°	31°
VEETMANLUUD		14°	27°

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VOOR SE NUWE KAPTEIN

Augetto Graig

Saterdag 24 April is stembad vir die Rehoboth Bastergemeenskap. Volgens die voorsitter van die verkiesingskomitee onder die Kantoer van die Kaptein, mnr. Wesley Harker, gaan voorbereiding voort.

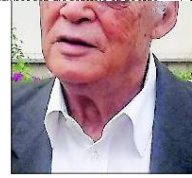
Gister teen 16:00 was reeds meer as 5 000 stemmers geregistreer en hy was oortuig 'n vloed registrasievorms sou nog ná vyfuur instroom, aangesien sowat 8 500 vorms uitgedeel was. Die spertyd vir registrasie van kiesers was gisteraand halfagt.

Harker skat tussen 70% en 80% van geregistreerde kiesers sal

Saterdag stem. Hy het verskeie stempunte aangekondig, insluitend die Hermanus van Wyk gedenkmaal in die dorp, wat van 07:00 tot 21:00 vir stembodeleindes oop sal wees.

Basters kan ook by die Annelie Olivier ouerhuis vanaf 07:00 tot 14:00 stem; by die Social Housing saal in Blok F (07:00 tot 15:00); die saal by Echo-dienstasie (15:00 tot 17:00); die Beukes Self-Help in Kavukiland (07:00 tot 20:00) of tydens die Community Trust skoolgebou by die Kameeldoring Kwekery (07:00 tot 12:00).

Die Kapteinskantoor reël ook mobiliteitspunte om Rehoboth se omliggende plase te besoek en stemgeleenthede te



Wylekaptein John McNab is vroeg in Oktober 2020 oorlede. FOTO ARGIEF

bied, sê hy.

Mnr. Jacky Britz en mnr. Rynault van Wyk is die twee mededingers vir die posisie van Baster Kaptein. Britz was gister onbereikbaar, maar Van Wyk is ontvrede met die kort tydperk

'NET MOOI NIKS IN PLEK'

Van Wyk dring aan die verkiesing moet uitgestel word, "maar nie afgesel nie. Die Van Wyk-groepering is besig om 'n hofbevel te kry om die tydperk te verleng."

Van Wyk het gisteroggend sy prokureurs oor die saak gaan spreek. Hy kla ook dat voorbereiding en inligting oor die verkiesing nie versprei word nie.

"Ek weet niks van die kiesrol nie, nie van stempunte nie, nie stemmetodes of reëlings vir toesighouers nie. Op Afrikaans sê ons dit is mooi niks. Niks is in plek nie," sê hy.

Harker dring egter aan: "Die verkiesing sal voortgaan. Ons gaan voort," sê hy.

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Pensioenaris in haar huis vermoor

VAN BL. 1

Hulle het glo deur 'n oop badkamer te gaan tot die huis verky. Ná die misdaad het die mans glo gevul in 'n voertuig wat in die straat geparkeer was. Die alarm was tydens die misdaad nie aangeskakel nie, het 'n lid van die veiligheidsmaatskappy gesê.

"Ons is baie gekok," het een buurman gesê. "Ons het altyd gedink ons straat is veilig, maar nou is ons baie bekommerd."

**TOENAME IN AANVALLE**  
Lohmeier en haar ma, wat 'n paar jaar gelede oorlede is, het jare lank in die huis gewoon. Sy laat 'n seun en 'n dogter, asook verskeie kleinkinders agter.

In 'n onderhoud met *Allgemeine Zeitung* het ondersoekbeamptes hul kommer oor die skerp toename in aanvalle op bejaardes in Swakopmund uitgespreek. 'n Week gelede het drie gemaskerde mans by 'n huis in Vineta ingestorm waar twee bejaarde vroue woon. In dié geval het die

verdagtes die oppasser geslaan en vasgebind en 'n 87-jarige vrou gemuilband.

Die Swakopmund-buurtwag het reeds in Maart hul kommer uitgespreek toe "drie gewelddadige aanvalle op bejaardes" binne tien dae plaasgevind het.

"Ons is baie bekommerd oor ons bejaarde inwoners wat alleen woon, omdat die genadelose misdadigers hulles telken," het die buurtwag gesê.

-eleuschmer@az.com.na

Woensdag 28 April 2021

Republiek

NUUS 3

» Begroting dek 50% van werksmag se salarisse

NBC se geldsake duister

Ou skuld en geldtekorte belemmer die nasionale uitsaaiers se toekoms, sê die raad.

werkers eis 'n 8%-salarisverhoging wat die koste van werknemers vir die NBC tot meer as N8284 miljoen sou vererf. sê Similo

ontstaan toe die korporasie persoonlike belasting van werknemers afgetrek het, maar nie kon oorbetalen nie. "Die geld is nie aan die ontvanger oop-



gemeenskap van die Hakahana-informele nedersetting toe te spreek en in te lig oor misdaad-

hulle kan mense geneses of hul probleme oplos, is ook bespreek. Alkoholen dwelmisbruik wat tot



deur die regte kanale, soos die beskikbare tolvrye nummers of by die naaste polisiekantoor, aan te meld.



Die inwoners van die Echambo dha Nehale-informele nedersetting wat die Nampol-inligtingssessie oor misdaadvoorkoming binne die gemeenskap op 22 April bygewoon het. FOTO'S VERSKAF

**PUBLIC PARTICIPATION NOTICE**  
ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL INSTALLATION IN WALVIS BAY

Geo Pollution Technologies (Pty) Ltd was appointed by CTI Mechanic Installation & Maintenance cc to undertake an environmental assessment for the construction and operations of a Consumer Fuel Installation on erf 4896, Grand Avenue, Walvis Bay. Background information for the project, containing a location map, is available at: [www.thenamib.com/projects/projects.html](http://www.thenamib.com/projects/projects.html)

The environmental assessment will be according to the Environmental Management Act of 2007 and its regulations as published in 2012.

The consumer fuel installation will consist of one aboveground, bunded storage tank of 200 m<sup>3</sup>, connected to a dispenser on a spill control slab. Operations will involve the receipt of diesel from road tankers, dispensing fuel to construction and fleet vehicles and administrative tasks like tank dips and fuel volume reconciliations.

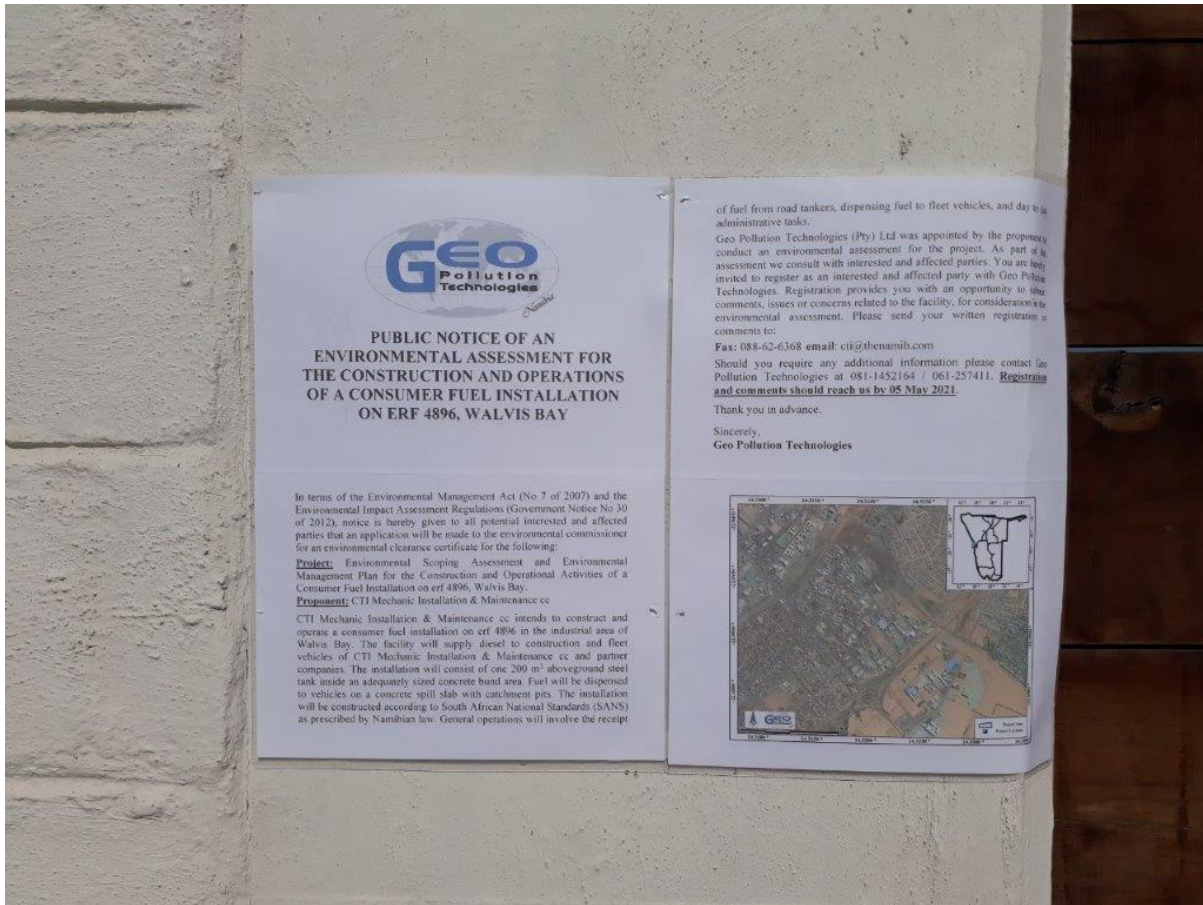
All interested and affected parties are invited to register with the environmental consultant. By registering you are provided with an opportunity to share any comments, issues or concerns related to the facility, for consideration in the environmental assessment. Additional information can be requested from Geo Pollution Technologies.

All comments and concerns should be submitted to Geo Pollution Technologies by 05 May 2021.

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Site Notice





## **Appendix C: Comments and Responses**



Comment	Response
<p><b>David Uushona (Municipality of Walvis Bay)</b>  <b>Received by E-mail 12 May 2021</b></p> <p>I have a overall problem with the establishment of bulk fuel installation all over the show. Will request Council and MEFT to assist in putting a hold on these until having a holistic assessment (socio-economic as well) view.</p>	<p>Please note that it is a consumer installation for own consumption. The Ministry of Mines and Energy (MME) does scrutinise new wholesale and retail licenses in Walvis Bay and now also require feasibility studies as part of these license applications. It will however not form part of the EIA.</p> <p>On the consumer side it is better to rather allow a proper industry standard consumer installation that one can monitor than having uncontrolled filling from drums, etc., without spill containment. MME is now busy inspecting all existing consumer installations to check for SANS compliance.</p> <p><b>[Note: The Walvis Bay Municipality Town Planning Scheme does make provision for “Service Stations” on land zoned as light industrial without requiring consent.]</b></p>







## **Appendix D: Consultants' Curriculum Vitae**



**ENVIRONMENTAL SCIENTIST****André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 140 Environmental Impact Assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

**CURRICULUM VITAE ANDRÉ FAUL**

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	20
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

**EDUCATION AND PROFESSIONAL STATUS:**

B.Sc. Zoology	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017
Basic Fire Fighting	EMTSS, 2017

**PROFESSIONAL SOCIETY AFFILIATION:**

Environmental Assessment Professionals of Namibia (Practitioner and Executive Committee Member)

**AREAS OF EXPERTISE:**

Knowledge and expertise in:

- ◆ Water Sampling, Extractions and Analysis
- ◆ Biomonitoring and Bioassays
- ◆ Biodiversity Assessment
- ◆ Toxicology
- ◆ Restoration Ecology

**EMPLOYMENT:**

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

**PUBLICATIONS:**

Publications:	5
Contract Reports	+140
Research Reports & Manuals:	5
Conference Presentations:	1

**ENVIRONMENTAL GEOLOGIST****Wikus Coetzer**

Wikus has 6 years' experience in environmental science related fields with 4 years' experience in conducting environmental impact assessments and preparation of environmental management plans. He holds an honours degree in Environmental Sciences – Environmental Geology from the Northwest-University Potchefstroom (NWU) South Africa. He first completed a B.Sc. degree in Geology and Botany in the required time also from the Northwest University Potchefstroom, South Africa. His honours project focused on the rehabilitation and phytoremediation of various tailings types and soils.

He has working experience as an environmental monitor / assisting environmental officer at Petra Diamonds, Cullinan Diamond Mine (CDM) where he gained a proper understanding of environmental monitoring responsibilities as well as legislations, regulations and the implementation of EMS/ISO14001. He started working at Geo Pollution Technologies in 2017, and regularly conducts/assists and report on environmental impact assessments, environmental management plans and pollution surveys.

**CURRICULUM VITAE WIKUS COETZER**

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	WIKUS COETZER
Profession	:	Environmental Geologist
Nationality	:	South African
Position	:	Environmental Geologist
Specialisation	:	Environmental Geology/ Geochemistry
Languages	:	Afrikaans – speaking, reading, writing English – speaking, reading, writing

**EDUCATION AND PROFESSIONAL STATUS:**

B.Sc. Environmental and Biological Sciences – Geology & Botany  
B.Sc. (Hons.) Environmental Sciences – Environmental Geology

: NWU Potchefstroom 2013  
: NWU Potchefstroom 2014

First Aid Class A                    EMTSS, 2017  
Basic Fire Fighting                EMTSS, 2017

**AREAS OF EXPERTISE:**

Knowledge and expertise in:

- ◆ Phytoremediation
- ◆ Environmental Geology / Geochemistry
- ◆ Environmental Monitoring
- ◆ Environmental Compliance
- ◆ Environmental Impact Assessments
- ◆ Environmental Management Plans

**EMPLOYMENT:**

2017 - Date:                    Geo Pollution Technologies  
2015 - 2016:                  Petra Diamonds CDM – Environmental monitor / Assisting environmental officer  
2015:                            Petra Diamonds CDM – Graduate program: Environmental Officer  
2014:                            NWU Potchefstroom department of Geo and Spatial Sciences – Research assistant

**PUBLICATIONS:**

Contract Reports: +40