

# ENVIRONMENTAL MANAGEMENT PLAN

## FOR PROPOSED CONSTRUCTION AND OPERATION OF JOEL AND NGORE TRADING INVESTMENT SERVICE STATION AT OKATUMBA GATE-EISEB AREA, OMAHEKE REGION



**APP-003817**

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## **1.1 BACKGROUND**

Eco-Wise Environmental Consulting cc has been appointed by Joel and Ngore Trading Investment cc as an independent environmental consultancy to undertake the Environmental Impact Assessment (EIA), develop an Environmental Management Plan and apply for an Environmental Clearance Certificate for the proposed construction and operation of Joel and Ngore Trading Investment service station at Okatumba Gate-Eiseb Area, Omaheke Region.

This Environmental Management Plan (EMP) has been developed to manage all the impacts, which were identified during the environmental assessment of the project. The EMP has been developed in terms of the Environmental Management Act (EMA) No 7 of 2007, EMA regulations of 2012 and other legislations binding to Namibia. The proposed project is listed as an activity, which cannot be undertaken without an EIA. The project therefore falls under Hazardous Substance Treatment, Handling and Storage. Annexure 9.5 states that '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' require an EIA.

## **1.2 PROJECT ACTIVITIES**

The following activities will be done during the lifespan of the project:

### **Construction Phase**

- Land preparation.
- Transportation of construction material
- Construction of structures
- Installations e.g. of fuel tanks, oil/water separator interception etc
- Connections for water and energy
- Testing and commissioning

### **Operational phase**

- Fuel distribution
- Off-loading of fuel
- Dispensing of fuel into vehicles
- Yard cleaning
- Corrective Maintenance (Replacing of non-functioning equipment)

### **Decommissioning phase**

- Removal of infrastructures
- Transportation off-site
- Site rehabilitation

## **2. EMP AIMS AND OBJECTIVES**

The environmental management plan (EMP) aims to take a pro-active route by addressing potential problems before they occur. The objectives of the EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the project
- Provide a framework for implementing the management actions recommended in the EIA.
- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its activities.

## **3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK**

Legislations are used as guiding tools during the development of an EMP. The Proponent will be required to abide to different policies, laws, regulation relating to the project. The Environmental Management Act No. 7 of 2007 and its' regulations of 2012 were the main legislations, which were used as guiding tools during the development of the EMP. Table 1, indicate the relevant legislations related to the project.

**Table 1:** Relevant legislation and policies related to the project

Aspect	Legislation	Relevant Provisions	Relevance to the Project
<b>The Constitution</b>	Namibian Constitution First Amendment Act 34 of 1998	<ul style="list-style-type: none"> <li>- According to article 91(c) it provides for duty to guard against "the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia"</li> <li>- Article 95 (l) deals with the "maintenance of ecosystems, essential ecological processes and biological diversity" and sustainable use of the country's natural resources.</li> </ul>	<ul style="list-style-type: none"> <li>- The study area is located within a conservancy</li> <li>- During the lifespan of the project, possible impacts which might affect the environment might happen e.g. spillages, fires etc hence the need for the Proponent to guard against hazards or impacts which might affect the environment.</li> </ul>
<b>Environmental</b>	Environmental Management Act 7 of 2007	<ul style="list-style-type: none"> <li>- States that, projects with significant environmental impacts are subject to an environmental assessment process (Section 27).</li> <li>- Requires for adequate public participation during the environmental assessment process for Interested and Affected Parties to voice their opinions on a project (Section 2).</li> </ul>	<ul style="list-style-type: none"> <li>- The EMA should guide the management of this project.</li> <li>- Adverts should be published in two local newspapers twice.</li> <li>- The public and relevant authorities should be consulted during the process of public participation as per the requirement of the act</li> <li>- The Environmental Management Plan which will guide on the management of the environment should be drafted as per the requirement of the act</li> </ul>

	EIA Regulations (2012)	- Lists all activities, which cannot be undertaken without an EIA.	- This project is listed under Hazardous Substance Treatment, Handling and Storage activities. - Annexure 9.5 states that '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' require an EIA.
	Petroleum Products Regulations (2000) (Guidelines For Operators of Retail Outlets)	-The guidelines provide important information on storage tanks and information to be given yearly, fire precautions and petroleum product spills. It also stipulates penalties for contravention of or failure to comply with the provisions of the Petroleum Products and Energy Act or regulations.	- Incidences such as spills and fire might happen on site therefore the Proponent must be familiar with the guidelines in case such incidences happen.
	Nature Conservation Ordinance No. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	- Indigenous and protected plants should be protected within the areas of works.
	Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term "environment" is broadly interpreted to	- The EIA shall consider this term of "environment".

		include biophysical, social, economic, cultural, historical and political components.	
	Petroleum Products & Energy Act	The Act emphasis on carrying out environmental impact assessment studies. Moreover, the act defines the responsibility of operators in the field of petroleum exploration and exploitation for health, safety and welfare of persons employed or performing work, and for protection of other persons, property, the environment and natural resources, in or in respect of any area where petroleum activities are carried out. Part XII contains provisions relating to emergency preparedness. Each operator shall prepare an emergency preparedness plan.	<ul style="list-style-type: none"> <li>- An EIA study shall be carried out capturing possible impacts associated with the proposed activity.</li> <li>- The Proponent shall prepare an emergency preparedness plan.</li> </ul>
<b>Soil</b>	Soil Conservation Act 6 of 1969	This act covers the prevention and combating of soil erosion; the conservation, improvement and manner of use of the soil and vegetation; and the protection of water sources	<ul style="list-style-type: none"> <li>- During construction phase activities which disturb the soil will take place e.g. excavations</li> <li>- Soil might also be affected during operation or perhaps during decommissioning in an event of any spillages</li> </ul>

<b>Water</b>	Water Act 54 of 1956	<ul style="list-style-type: none"> <li>- Prohibits the pollution of underground and surface water bodies.</li> </ul>	<ul style="list-style-type: none"> <li>- Pollution through spillages might happen during the operation phase hence the Proponent should take all necessary measures which prevent such incidents.</li> </ul>
<b>Health and Safety</b>	Labour Act (No 11 of 2007)	<ul style="list-style-type: none"> <li>- This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.</li> </ul>	<ul style="list-style-type: none"> <li>- The Proponent will be obliged to create a safe working environment for the employees.</li> </ul>
	Public Health and Environmental Act, 2015	<ul style="list-style-type: none"> <li>- The act mainly emphasis on proper management of the environment, to prevent negative health impacts.</li> <li>- The act promotes proper waste management.</li> </ul>	<ul style="list-style-type: none"> <li>- Proper waste management should be promoted to prevent nuisance, which can consequently affect public health.</li> <li>- Recycling, reuse and reduce must be practised at all times thus if any waste is generated.</li> </ul>
	Traditional Authority Act, Act No.25 of 2000	<ul style="list-style-type: none"> <li>- The Act provides for the establishment of Traditional Authorities, the designation, election and recognition of traditional leaders including their powers, duties, functions and authorities.</li> </ul>	<ul style="list-style-type: none"> <li>- The study area is under the jurisdiction of the traditional authority</li> </ul>
	Communal Land Reform Act, Act 5 of 2002	<ul style="list-style-type: none"> <li>- The Act provides for the allocation of land rights in the communal areas of Namibia including the establishment, roles and functions of Communal Land Boards. It also provides for the powers of</li> </ul>	<ul style="list-style-type: none"> <li>- The study area falls under communal land</li> </ul>



		the Chiefs and Traditional Authorities in all matters related to communal land.	
	Heritage Act	<ul style="list-style-type: none"> <li>- The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.</li> </ul>	<ul style="list-style-type: none"> <li>- Even though nothing of archaeological significance is known to be on the site, in an event that the Proponent comes across anything of archaeological significance, they should report immediately to the Monuments Council</li> </ul>

## **4. ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK**

### **4.1 ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN ADMINISTRATION AND TRAINING**

This Environmental Management Plan (EMP) shall clearly state the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. The Proponent in this report refers to Joel and Ngore Trading Investment cc.

### **4.2 ROLES AND RESPONSIBILITIES**

**Proponent (Joel and Ngore Trading Investment cc):** has the overall responsibility for all financial and work force provisions, which will facilitate the implementation of this EMP. **The role of the Proponent is as follows:**

- The Proponent is responsible for the appointment of other personnel responsible for the implementation of this EMP.
- Revise the EMP as required and inform the relevant parties of the changes.
- Protect the environment and rehabilitate the environment as prescribed in the EIA.

**Competent and Monitoring authority (The Department of Environmental Affairs: Ministry of Environment and Tourism):** Responsible for the review and approval of the EIA and EMP documents.

**Project Manager** - Required in carrying out the overall responsibility for the implementation of the EMP to ensure that all required resources and mechanisms for environmental management are in place. Report all environmental issues to HSEO officer.

**Health Safety and Environmental Site Officer (HSEO)** - responsible of all environmental issues (waste management) and safety of employees. The HSEO should record and report all incidents on site.

**Environmental Control Officer (ECO)** - required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the sites, compilation of all reports to be submitted to MET: DEA for renewal of the environmental clearance certificate.

**Employees** - Required to follow requirements as directed by the project manager. Report any potential environmental issues to the project manager.

**Contractors** - all contractors (including subcontractors) and service providers are ultimately responsible for:

- Complying with the Environmental Management Plan specifications where applicable;

- Provide Environmental; Method Statements to the Project Manager with regards to how certain activities on-site will be conducted.
- Adhering to any environmental instructions issued by the Project Manager
- Arrange that all the contractor's employees receive training. Trainings have to be appropriate for the level of the tasks and functions undertaken.

The Environmental Method Statement referred to above will cover applicable details with regard to:

- Equipment to be used;
- Getting the equipment to and from site;
- How the equipment will be moved while on-site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
  - Identified potential impacts of the activity and mitigation measures thereof;
    - Compliance/non-compliance with the Environmental Specifications; and
    - Any other information deemed necessary by the Project Manager.

## **5. ENVIRONMENTAL MANAGEMENT PLAN**

In this EMP, distinction is made between the construction, operation and the decommissioning phases. The Proponent has the responsibility for implementing the EMP and ensuring their staff complies with the guidelines.

### **5.1.1 HYDROCARBONS MANAGEMENT**

If any spillage occurs, contaminated soil shall be collected in a holding tray or drum and disposed at a licensed hazardous waste site. Any spillage of more than 200 litres must be reported to the Ministry of Mines and Energy as per the Petroleum Products Act.

The Proponent shall take all reasonable measures to prevent surface or groundwater pollution from the release of oils and fuels. In addition, sufficient space should be left in fuel storage tanks to allow fuel expansion and to prevent leakage of fuel from the fuel storage facility.

### **5.1.2 ACCESS ROUTES AND WORK SITES**

Vehicles will access the proposed service station via the C44 - D5913 road (Epukiro road). An access road shall be put from the D5913 road to the site; therefore, an application for an access road should be applied from the Roads Authority. Roads should be clearly marked

with signs prior to construction activities beginning, together with designated turning points and construction lay down areas.

#### **5.1.3 SITE MANAGEMENT**

Construction and maintenance staff should be educated and informed of their environmental obligations. Meaningful penalties for damages should be stipulated, and the main contractor should be held responsible for all transgressions. Areas outside this designated working zone shall be considered “no go” areas. The contractor should carry out air and noise pollution control checks so as to be aware of the level of dust and noise emitted respectively.

#### **5.1.4 STAFF MANAGEMENT**

The Contractor must ensure that their employees have suitable personal protective equipment and are properly trained.

#### **5.1.5 WASTE MANAGEMENT**

The developer shall remove all waste off-site to designated licensed disposal site. Sufficient bins or containers to store any solid or liquid waste produced shall be provided on site. The bins and containers should be weatherproof and scavenger-proof.

#### **5.1.6 FIRE AND SAFETY MANAGEMENT**

The electrical wiring at the service station should be approved by a qualified electrician who will issue a Certificate of Compliance for these buildings prior to occupation.

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise.

No fire, whether for cooking or any other purpose, is to be made at the service station during any of the two phases (operational and decommissioning). The Proponent shall take all reasonable measures and active steps to avoid increasing the risk of fire through activities on site and prevent the accidental occurrence or spread of fire; and shall ensure that there is sufficient fire-fighting equipment on site at all times. This equipment shall include fire extinguishers. According to SANS (2008), the service station should have portable and mobile fire-extinguishers which comply with an approved standard, dry chemical powders shall be of a type that complies with SANS 1522 and compatible with the intended application and all fire extinguishers shall be protected from the weather.

#### **5.1.7 DECOMMISSIONING AND TANK REMOVAL/REPLACEMENT PHASES**

The decommissioning of tanks should be overseen by a professional from the oil industry and the Environmental Officer. The old tanks should be disposed off at a suitable landfill site and disposal certificates provided.

During the decommissioning phase of the service station or replacement of tanks, a contamination assessment will be carried out. This assessment will be used to determine whether any contamination of the site has occurred and if so whether it presents any additional risk to human health and the environment. The contaminated area should be remediated to acceptable levels.

## 5.2 MANAGEMENT OF NEGATIVE IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

The following tables form the core of this EMP for the proposed project. The below information shown in the tables, should be used as a checklist on site.

### 1. Dust

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Dust	Dust might accumulate during the construction phase from movement of vehicles/ equipment at site and excavation works. People at risk are likely to be employees working on the site.	<ul style="list-style-type: none"><li>• Soil watering when soil works are being executed and where dust is emitted</li><li>• People at site should be provided with respirators</li><li>• Regular monitoring and review to ensure safe operation.</li><li>• An EIA before the decommissioning phase.</li></ul>	Construction & Decommissioning Phases	Joel & Ngore Trading Investment cc, Contractors, Project Manager and appointed HSEO

## 2. Noise

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Noise</b></p>	<p>Construction vehicles will be utilized from time to time during the construction phase and noise might be generated. Moreover, noise might be emitted during the operation phase when trucks will be coming to off-load fuel and vehicles coming for refuel.</p>	<ul style="list-style-type: none"> <li>• Employees to be equipped with ear protection equipment.</li> <li>• Regular servicing of the vehicles and machines</li> <li>• Noise levels to be checked during construction phase</li> <li>• Noise levels should not equal or exceed 85dBA for workers working an 8hour shift (according to ISO 18000)</li> </ul>	<p>Construction, Operation, Decommissioning</p>	<p>Joel &amp; Ngore Trading Investment cc, Contractors and appointed HSEO</p>

### 3. Biodiversity loss

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Biodiversity loss</b></p>	<p>The site was already cleared and currently vegetation which is regrowing is mainly small thorn trees. No endangers plant species were identified on site.</p> <p>The site does not have any wild animals because the area and its surroundings are no longer virgin lands. Only small insects and cow dung were identified on site.</p>	<ul style="list-style-type: none"> <li>Implementation of agro forestry techniques well adapted to the site (greenbelt and green cover)</li> </ul>	<p>Construction phase</p>	<p>Joel &amp; Ngore Trading Investment cc, Contractors and appointed HSEO</p>



#### 4. Impact on soil

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Impact on soil	Soil might be affected during the construction, operation and perhaps the decommissioning phase. During the construction phase, soil will be disturbed by activities like excavations. During the operation phase, fuel leakages and spillages might contaminate the soil.	<ul style="list-style-type: none"> <li>• Concrete slabs and interlocks shall be constructed so as to prevent soil contamination in events of spillages and fuel leakages.</li> <li>• On completion of works (in phases), all temporary structures, surplus materials and wastes to be completely removed</li> <li>• Proper care should be taken so that there is no spill that would cause soil contamination</li> <li>• Hazardous waste properly handled and sent for disposal to appropriate disposal areas</li> <li>• The management to maintain records of contaminated waste on a regular basis</li> </ul>	Construction, Operation & Decommissioning phase	Joel & Ngore Trading Investment cc, Contractors and appointed HSEO

## 5. Surface and groundwater contamination

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Surface &amp; groundwater contamination</b>	During the operation phase, spillages might occur when offloading fuel into the storage tanks and when filling vehicles. Surface and groundwater contamination is very harmful if not checked because the contamination can spread and reach water bodies which are used by people and animals.	<ul style="list-style-type: none"> <li>• Risks of such an impact can be lowered through proper training of staff and installation of suitable containment structures</li> <li>• Install oil interception system.</li> <li>• Install isolating surface drainage system.</li> <li>• Implement integrity tests on the tanks.</li> <li>• Proper toilet facilities</li> <li>• Spillage control procedures must be in place according to SANS 10089-1:2008 and SANS 100131-2 standards, or better</li> <li>• Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990))</li> </ul>	Operation & Decommissioning	Joel & Ngore Trading Investment cc, and appointed HSEO

## 6. Fire and Explosion Hazard

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Fire and Explosion Hazard</b>	Fire and Explosion can happen during the operation phase. Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions measures are not taken to prevent their ignition, fire and subsequent safety risks may arise.	<ul style="list-style-type: none"> <li>• Sufficient water should always be available for firefighting purposes.</li> <li>• Good housekeeping</li> <li>• The Emergency Response Plan should be implemented and should address the potential spills.</li> <li>• Regular inspections to inspect and test firefighting equipment and pollution control measures at the service station.</li> <li>• Fuel tanks should be established away from potential neighbouring fire points. All fire precautions and fire control at the service station must be in accordance with SANS 10089-1:2008, or better.</li> </ul>	Operation	Joel & Ngore Trading Investment cc, and appointed HSEO

## 7. Generation of waste

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Generation of waste</b></p>	<p>Waste is expected to be generated during the construction, operation and decommissioning phase. During the construction phase, waste will be generated from domestic waste and construction wastes like empty cement bags, painting containers etc.</p> <p>During the operation phase, waste is expected to be generated from domestic waste and contaminated soil. Waste can also be generated during the decommissioning phase when infrastructure will be removed.</p>	<ul style="list-style-type: none"> <li>• Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed at an appropriate disposal site.</li> <li>• Strictly, no burning of waste on the site or at the disposal site, as it possess environmental and public health impacts;</li> <li>• Regular inspection of the site</li> <li>• Toilets should be constructed</li> </ul>	<p>Construction, Operation &amp; Decommissioning</p>	<p>Joel &amp; Ngore Trading Investment cc, Contractors and appointed HSEO</p>

## 8. Air quality (emissions)

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Emissions</b>	<p>During the operation phase fuel will be off-loaded into the tanks for storage consequently this can affect the air quality. Hydrocarbon vapours will normally be released during off-loading as liquid displaces the gaseous mixture in the tanks. These substances if released in large quantities they can contribute to the greenhouse effect and global warming, depletion of the ozone, increase occurrences of cancer, respiratory disorders and reduce the photosynthetic ability of plants.</p>	<ul style="list-style-type: none"> <li>• Vent pipes should be placed in such a manner as to prevent impact on potential receptors</li> <li>• Vehicle idling time shall be minimised by putting up educative signs.</li> <li>• All venting systems and procedures have to be designed according to SANS standards</li> </ul>	<p>Operation, Decommissioning</p>	<p>Joel &amp; Ngore Trading Investment cc and appointed HSEO</p>

## 9. Traffic impact

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Traffic impact</b></p>	<p>During construction phase there shall be movement of vehicles and equipment along the C44 - D5913 to the site. Construction related activities are not expected to have an impact on the movement of traffic along these roads because the road is not a busy road.</p> <p>During the operation phase, traffic impacts are expected to be of low significance.</p>	<ul style="list-style-type: none"> <li>• No diversion of traffic or closure of the road is expected</li> <li>• Entry and exit way to be included at design stage</li> <li>• During construction, the responsible contractor must ensure that all drivers employed have valid driver's licenses of vehicle types they are employed for and that they have experience in driving those vehicles.</li> <li>• The contractor must ensure that there is always a supervisor on site to ensure that no driver under the influence of alcohol or narcotics is driving company vehicles.</li> </ul>	<p>Construction &amp; Operation phase</p>	<p>Joel &amp; Ngore Trading Investment cc, contractor and appointed HSEO</p>

### 5.3 MANAGEMENT OF SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

#### 1. Risk of Occupational Health and Safety

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Risk of OHS</b>	OHS hazards may occur during the construction and operation phases. Noise, dust, stress are some of the hazards which are likely to be encountered during the construction phase. During the operation phase, hazards which are likely to be encountered include fire, explosion, occupational and stress	<ul style="list-style-type: none"> <li>• Provide all staff on site with protective equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable).</li> <li>• Trainings on occupational health and safety</li> <li>• Safety talks to be done every day before commencement of work</li> <li>• Formulation of a safety health and environment workers committee</li> <li>• Safety officer to be stationed at the site</li> <li>• Implementation of Behaviour Based Safety System</li> <li>• First Aid kits to be available at the site</li> </ul>	Construction & Operation	Joel & Ngore Trading Investment cc, contractor and appointed HSEO

## 2. Safety and Security

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Safety and Security</b>	Generally, projects attract different people from different locations. Some people can end up stealing or practicing anti-social behaviours.	<ul style="list-style-type: none"> <li>• Sensitization campaigns/workshops to the staff on repercussions of anti-social behaviours</li> <li>• Employing security officers</li> </ul>	Construction & Operation	Joel & Ngore Trading Investment cc, contractor and appointed HSEO

## 3. Heritage impact

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Heritage</b>	At the site, there are no known heritage areas or artefacts deemed to be impacted by the construction activities.	<ul style="list-style-type: none"> <li>• All works are to be immediately ceased should an archaeological or heritage resource be discovered.</li> <li>• The National Heritage Council of Namibia (NHCN) should advise with regards to the removal, packaging and transfer of the potential resource.</li> </ul>	Construction	Joel & Ngore Trading Investment cc



#### 4. Cumulative impact

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Cumulative impact</b>	During the operational phase there might be cumulative impacts. Fuel is going to be off-loaded which can result in the release of hydrocarbon vapours which have an impact of reducing the air quality and also causing fires and explosions. Hydrocarbon vapours if released in the atmosphere in large quantities they can also cause global warming, reduction of photosynthesis of plants and cancer.	<ul style="list-style-type: none"> <li>• All possible sources of ignition in the entire area should be eliminated</li> <li>• Sufficient water should always be available in case of fire for firefighting purposes.</li> <li>• Vent pipes should be placed in such a manner as to prevent impact on potential receptors.</li> <li>• Regular check tests</li> </ul>	Operation phase	Joel & Ngore Trading Investment cc and appointed HSEO

## 5.4 POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT

### 1. Accessibility of fuel

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Accessibility of fuel</b>	Currently locals are facing a great challenge to get fuel, the reliable area to get fuel is in Gobabis which is approximately 220km from the site. If the proposed service station operates in the area, this will greatly help the locals and by-passers to easily access fuel. Therefore, the proposed project will be very beneficial and it will not only help the locals but also people outside the project area.	<ul style="list-style-type: none"> <li>• Maintain a consistent supply of fuel</li> <li>• Maintain fuel market related prices</li> </ul>	Operation Phase	Joel & Ngore Trading Investment cc

## 2. Local empowerment

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Local empowerment</b>	Joel and Ngore Trading Investment is owned by Namibian citizens from the Omaheke Region hence promoting this project implies promoting local empowerment.	<ul style="list-style-type: none"> <li>Continue to promote locals</li> </ul>	Operation Phase	Joel & Ngore Trading Investment cc

## 3. Employment creation

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Employment creation</b>	It is definite that jobs will be created during the life span of the project.	<ul style="list-style-type: none"> <li>Employ locals in all casual labour and ensure gender equality.</li> <li>Equity, transparency, to be put into account when hiring and recruiting</li> </ul>	Construction & Operation Phase	Joel & Ngore Trading Investment cc

## 4. Generation of Revenue

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Generation of Revenue</b>	The Proponent will pay tax hence generating revenue.	<ul style="list-style-type: none"> <li>The Proponent to pay taxes as stipulated by the law of Namibia.</li> </ul>	Operation Phase	Joel & Ngore Trading Investment cc

## 6. ENVIRONMENTAL MONITORING

A monitoring programme will be in place to ensure conformance with the EMP. The Proponent will ensure compliance with the EMP, and carry out monitoring activities. The suggested monitoring details are outlined in table 2 below.

**Table 2:** Monitoring of identified impacts

IMPACT	RECEPTORS	TYPE OF MONITORING	FREQUENCY
Surface and ground water contamination	Boreholes	Tests on the nearby boreholes	Once in a year
O.H. S	Employees	Site inspection Conducting Hazard and Risk Identification	Daily
Dust	Employees	Regular site inspections	Quarterly
Safety and security	Employees	Inspection	Daily
Generation of waste	Land	Site inspection on housekeeping	Daily
Fire and Explosion	Land	Regular inspection of spills.	Daily

## 7. CONCLUSIONS

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It is the applicant's responsibility to ensure that this EMP is made binding on the contractor by including the EMP in the contract documentation. The contractors should thoroughly familiarise themselves with the requirements of the EMP.

The above Environmental Management Plan, if properly implemented, will help to minimise adverse impacts on the environment. Where impacts occur, immediate action must be taken to reduce the escalation of effects associated with these impacts.

The Environmental Management Plan should be used as an on-site reference document during the proposed development and auditing should take place in order to determine compliance with the EMP for the proposed project. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.