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## **Environmental Management Plan**

To Support an Application for an Environmental  
Clearance Certificate (ECC) to Permit the Construction  
and Operation of a Fuel Service Station

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Linyanti Settlement, Zambezi Region

December 2023

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<b>INFORMATION SHEET</b>	
<b>Project Title Name</b>	: An Environmental Management Plan (EMP) in Support of an Application for an Environmental Clearance Certificate (ECC) for the Construction and Operation of Fuel Service Station @ Linyanti Settlement, Zambezi Region
<b>MEFT Application No.</b>	: APP-002569
<b>Applicant</b>	: Bedzo Investments CC Box 513 GWEZE Zambezi Region Namibia
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## ABBREVIATIONS

BAT	-	Best Available Technology
BID	-	Background Information Document
EC	-	Environmental Clearance
ECC	-	Environmental Clearance Certificate
EIA	-	Environmental Impact Assessment
EIAR	-	Environmental Impact Assessment Regulations
EMA	-	Environmental Management Plan
EMP	-	Environmental Management Plan
IAPs	-	Interested and Affected Parties
KM	-	Katima Mulilo
LCC	-	Linyanti Constituency Council
LOI	-	Letter of Internet
MEFT	-	Ministry of Environment, Forestry and Tourism
MHSS	-	Ministry of Health and Social services
MME	-	Ministry of Mines and Energy
MURD	-	Ministry of Urban and Rural Development
MWALR	-	Ministry of Water Agriculture and Land Reform
NamRA	-	Namibia Revenue Agency
NHC	-	National Heritage Council
NSA	-	Namibia Statistics Agency
NSI	-	Namibia Standards Institute
PPE	-	Personal Protective Equipment
SAREP	-	Southern Africa Regional Environmental Programme
SHE	-	Safety, Health and Environment
URPB	-	Urban Regional Planning Board
UST	-	Underground Storage Tank
ZRC	-	Zambezi Region Council

## DEFINITION OF TERMS

<b>Assessment</b>	The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.
<b>Builder's Waste</b>	Means any waste generated during the building, construction, repair, alteration, renovation, excavation or demolition of any road, surface, structure, building or premises, and includes builders rubble, earth, vegetation and rock displaced during such building, construction, repair, alteration, renovation, excavation or demolition.
<b>Business Waste</b>	Means any waste generated on any premises used for non-residential purposes, but excluding agricultural properties and small holdings, and does not include general waste, household hazardous waste, garden waste, bulky waste, builder's waste, industrial waste, hazardous waste and health care risk waste.
<b>Council Site</b>	Means any waste management, collection, processing, satellite or disposal site operated and/or owned by DVC.
<b>Cumulative Impacts</b>	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.
<b>Disposal</b>	Means the discharge, depositing, dumping, spilling, leaking, placing of waste on or at any premises or place set aside by the DVC for such purposes, and "dispose" shall have a similar meaning.
<b>Dump</b>	Means to dispose of waste in any manner other than a manner permitted by law and includes, without derogating from the generality of the foregoing, to deposit, discharge, spill or release waste, whether or not the waste is in a container or receptacle, in or at any place whatsoever, whether publicly or privately owned, including but not limited to vacant land, waterways, catchments and sewage and stormwater systems. The act of "littering", which retains its ordinary meaning, is excluded from the definition of "dump".
<b>Environment</b>	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, paleontological or social values".
<b>Environmental Clearance Certificate</b>	A certificate and associated conditions issued in terms of the Environmental Management Act, authorizing a listed activity to be undertaken.
<b>Environmental Impact</b>	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
<b>Environmental Management Plan</b>	A working document which contains site project specific plan developed to ensure that environmental management practices to eliminate and control environmental impacts are followed during the developmental phase of that site, project and or facility and would normally consist of construction phase, operational phase and decommissioning phase.
<b>General waste</b>	Means any waste generated on or at any premises used – (a) for residential purposes, and includes agricultural properties and small holdings; or (b) as public and/or private facilities and institutions but does not include garden waste (unless specifically determined or authorised by the HNTC subject to any conditions or limitations that maybe imposed), bulky waste,

	business waste, builder's waste, industrial waste, hazardous waste and health care risk waste
<b>Hazardous waste</b>	Means - (a) any waste containing, or contaminated by, poison; (b) any corrosive agent; (c) any flammable substance having an open flash-point of less than 90 degrees Celsius; (d) an explosive or radioactive material and substance; (e) any chemical or any other waste that has the potential even in low concentrations to have a significant adverse effect on public health or the environment because of its inherent toxicological, chemical, ignitable, corrosive, carcinogenic, injurious and physical characteristics; (f) any waste consisting of a liquid, sludge or solid substance, resulting from any manufacturing process, industrial treatment or the pre-treatment for disposal purposes of any industrial or mining liquid waste, which in terms of any law, order or directive relating to drainage and plumbing may not be discharged into any drain or sewer; (g) the carcass of a dead animal; and (h) any other waste which may be declared as such by DVC or in terms of any other applicable law
<b>Household hazardous waste</b>	Means any waste, excluding garden or bulky waste, generated as a result of housekeeping, maintenance or repair activities on or at any premises, or accumulated, stored or deposited on such premises, used – (a) for residential purposes, and includes agricultural properties and small holdings; or (b) as public and/or private facilities and institutions. which by reason of its nature, composition, toxicity, type, quality, quantity or volume causes or may cause a nuisance, public health risk or pollution.
<b>Industrial waste</b>	Means any waste generated as a result of business, commerce, trade, wholesale, retail, professional, manufacturing, maintenance, repair, fabricating, processing or dismantling activities, but does not include general waste, garden or bulky waste, builder's waste, business waste, hazardous waste or health care risk waste.
<b>Minerals</b>	Means any substance, whether solid, liquid or gaseous form occurring naturally in, on or under any land and having been formed by or subjected to, a geological process.
<b>Non-compliance</b>	Issues that are in direct non-compliance with the requirements, commitments and/or management measures as approved in the EMP.
<b>Pollution</b>	Means any change in the environment caused by – (a) any waste, substance or matter; or (b) noise, odour, dust or heat, emitted from or caused by any activity, including the storage or treatment of any waste, substance or matter, building and construction, and the provision of any service, whether engaged in by any person or an organ of state if that change has an adverse effect on public health or well-being or on the composition, resilience and productivity of a natural or managed ecosystem (both short term and long term), or on material useful to people, or will have such an adverse effect in the future.
<b>Recovery</b>	Means the process or act of reclaiming or diverting from waste any materials, products or by-products for the purposes of being reused, or collected, processed and used as a raw or other material in the manufacture of a new, recycled or any other product, but excluding the use for purposes of energy generation.
<b>Recyclable waste</b>	Means waste which has been separated from the waste stream, and set aside for purposes of recovery, reuse or recycling.
<b>Recycling</b>	Means the process or act of subjecting used or recovered waste materials, products or by-products to a process or treatment of making them suitable for beneficial use and for other purposes, and includes any process or treatment by which waste materials are transformed into new products or base materials in such a manner that

	the original waste materials, products or by-products may lose their identity, and which may be used as raw materials for the production of other goods or materials, but excluding the use for purposes of energy generation, and “recycle” shall have a similar meaning.
<b>Recycling Facility</b>	Means a facility which receives any waste, materials, products or by-products for the purposes of recovery, reuse or recycling, and includes a buy-back centre.
<b>Reduction</b>	Means the process or act of reducing the nature, type, quality, quantity, volume or toxicity of any waste generated, and “reduce” shall have a similar meaning.
<b>Refuse container</b>	Means any receptacle or other container, including a skip, stipulated or approved by the DVC from time to time, whether supplied by the Council or not, for the storage, depositing and disposal of waste.
<b>Re-use</b>	Means the process or act of sorting and separating, at the point of origin, different materials found in any waste in order to promote and facilitate recovery, reuse and recycling of materials and resources, and “separate” shall have a similar meaning.
<b>Separation</b>	Means the process or act of sorting and separating, at the point of origin, different materials found in any waste in order to promote and facilitate recovery, reuse and recycling of materials and resources, and “separate” shall have a similar meaning.
<b>Storage</b>	Means the temporary storage or containment of any waste for a period of less than 90 days after its generation and prior to its collection for recovery, reuse, recycling, treatment or disposal.
<b>Waste</b>	Means any substance or matter whether solid, liquid or any combination thereof, irrespective of whether it or any constituents thereof may have value or other use, and includes – (a) any undesirable, rejected, abandoned or superfluous matter, material, residue of any process or activity, product, by-product; (b) any matter which is deemed useless and unwanted; (c) any matter which has been discarded, abandoned, accumulated or stored for the purposes of discarding, abandoning, processing, recovery, reuse, recycling or extracting a usable product from such matter; or (d) products that may contain or generate a gaseous component
<b>Waste Disposal Site</b>	Means any facility or site which receives waste for treatment or disposal, and which is authorised to accept such waste, or if such a facility is an incinerator, subject to the provisions of regulation 20, and any possible registration or other permission as may be required by any other applicable law.
<b>Waste generator</b>	Means any person whose activities produce any waste and, if that person is not known the person who is in possession and/or control of that waste.
<b>Waste Management Plan</b>	Means a structured document that sets out to record/eliminate/reduce/reuse/recycle the amounts and the types of all waste that is generated in an area or facility.
<b>Waste minimisation</b>	Means any activity, process or act involving the prevention, elimination or reduction of the amount, nature, type, quality, quantity, volume or toxicity of waste that is generated, and in the event where waste is generated, the reduction of the amount, nature, type, quality, quantity, volume or toxicity of waste that is disposed of.

# **1. BACKGROUND INFORMATION**

## **1.1 INTRODUCTION**

This Environmental Management Plan (EMP) is prepared to allow the promoter, Bedzo Investments CC (hereinafter, Bedzo) to apply for an Environmental Clearance Certificate (ECC) from the Ministry of Environment, Forestry & Tourism (MEFT) for the construction and operation of its planned fuel service station and associated amenities. The facility is along the C49 highway at Linyanti Settlement in the Zambezi Region.

This EMP is prepared to serve as a standalone plan for managing potential impacts associated with the proposed development and auxiliary activities. Mitigation measures are suggested based on the scoping assessment conducted by Ekwao Consulting and should be read in the context of what has been presented in the said report.

## **1.2 PURPOSE OF THE EMP**

The EMP is intended to ensure that the **Environmental Impacts** as identified in the scoping report are managed, mitigated and kept to the minimum. It is the aim of the EMP to provide clearly defined actions that should be implemented during the two phases (construction and operation/maintenance) of the proposed development.

The EMP is a dynamic document which is flexible and responsive to new and changing circumstances, hence, it should be updated as and when required. Any substantive changes to the facility will require an upgrade of the EMP.

The EMP is binding on Bedzo, the promoter and should be included as part of any outsourcing, tendering or any contractual documents between the promoter and any third party. It applies to any contractor who may be hired to develop the site, any contractor who may be hired in future to carry out renovations and/or maintenance work.

## **1.3 ACCEPTANCE OF THE EMP**

The acceptance of the EMP by MEFT will confer a legal obligation on the promoter to comply with the specifications and provisions of the EMP. Should the applicant fail to comply with such provisions, it is deemed to be a contravention in terms of the Environmental Management Act and as such is criminally prosecutable. This EMP includes all relevant documentation contained therein or referred to within it, along with any amendments, appendices or annexure to this document. The EMP should be updated in the event of any substantial changes, updates, modifications or revisions being made to the site and submitted to the EC.

## **1.4 ENVIRONMENTAL POLICY**

Based on the criteria provided in this EMP, Bedzo is to establish an appropriate specific policy that defines the objectives of its fuel service station and ensures sound environmental and social performance of the site. Such a policy obligates Bedzo to comply with applicable laws and regulations related to the environment, social assessment and management processes.

## **1.5 SITE DOCUMENTATION**

A copy of this EMP is to be kept on-site during the construction (construction and decommissioning) phase. The Site Manager or Site Agent and its employees are expected to be made familiar with the contents and provisions of this EMP. Copies of the EMP are also to be kept on site during the Business Phase (operational) and the Service Manager as well as each prospective employee who may be hired is expected to be made familiar with the contents and provisions of this EMP.



## 1.6 EMERGENCY NUMBERS

Emergency numbers for the following entities or stakeholders should be prominently displayed on a notice board in the office of Bedzo:

- Owner/ Service Manager
- Shift Supervisor
- Ambulance
- Fire brigade
- Police
- Health Inspector

## 2. ROLES AND RESPONSIBILITIES

Various stakeholders – statutory and non-statutory will have different roles and functions to play in the implementation of the proposed development as presented in the following two tables.

**Table 1:** Roles of Statutory Stakeholders

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
<p><b>The Environmental Commissioner (EC)</b></p>	<p>The Environmental Management Act (EMA) is implemented by the EC within MEFT. The EC is responsible for ensuring and enforcing compliance with the relevant environmental legislations and regulations of EMA. Amongst the roles and responsibilities of the EC are to:</p> <ul style="list-style-type: none"> <li>❖ amend the ECC and renewals thereof;</li> <li>❖ ensure overall compliance with the provisions of the EMP;</li> <li>❖ review this document and any revisions thereof;</li> <li>❖ undertake site inspection or audits at their discretion;</li> <li>❖ review any environmental compliance /audit reports;</li> <li>❖ review any major environmental related incidents/accidents, and</li> <li>❖ enforce the legal mechanisms for contraventions to the EMP.</li> </ul>
<p><b>The Petroleum Commissioner (in MME)</b></p>	<p>The Petroleum Commissioner (PC) is responsible for ensuring the implementation and compliance of the provisions of Petroleum Products and Energy Act. Amongst the roles and responsibilities of the PC are to:</p> <ul style="list-style-type: none"> <li>❖ ensure adequate supply of petroleum products to the nation;</li> <li>❖ minimise negative impact of petroleum resources exploitation to the environment;</li> <li>❖ grant licenses to role-players in the petroleum subsector;</li> <li>❖ initiate policies and regulations for the development of petroleum products;</li> <li>❖ promote and encourage economic activities in the petroleum subsector;</li> <li>❖ create a conducive investment climate in the petroleum subsector both upstream and downstream;</li> <li>❖ regulate, control, adjust and equalise the prices of petroleum products on a regular basis</li> <li>❖ approve the construction of new fuel service stations;</li> <li>❖ undertake inspections/visits to fuel service stations at his/her discretion;</li> <li>❖ ensure that the high standards of safety and health are upheld and maintained throughout the petroleum subsector, and</li> <li>❖ enforce the legal mechanisms for any contraventions of the Petroleum Products Act</li> </ul>

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
<p><b>The Health Officer of Linyanti Settlement (HO)</b></p>	<p>The Health Officer for the Linyanti Settlement is expected to play the following the roles during the construction of the facility:</p> <ul style="list-style-type: none"> <li>❖ To acquaint him/herself with the provisions of the EMP.</li> <li>❖ To undertake prior site inspections in the company of the contractor, i.e. before the Contractor moves on site.</li> <li>❖ To identify a suitable site where to locate the construction campsite.</li> <li>❖ To monitor the activities of the contractor with regard to the provisions of the EMP and the bylaws of the settlement.</li> <li>❖ To undertake monthly inspections and audits on the implementation of the EMP during the construction phase.</li> <li>❖ To prepare a post-construction final audit report to fulfill the requirements with respect to post-construction recommendations.</li> </ul>

**Table 2:** Roles of Non-statutory Stakeholders

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
<p><b>The Promotor (Bedzo)</b></p>	<p>Bedzo as the promoter is responsible for amongst other things the following:</p> <ul style="list-style-type: none"> <li>❖ To comply with the terms and conditions attached to all licenses and permits pertaining to the running of a fuel service station;</li> <li>❖ To ensure that all operational activities are conducted within the parameters of the relevant laws and regulations.</li> <li>❖ To ensure that the necessary environment authorizations and permits are obtained and copies kept in the site office;</li> <li>❖ To ensure that all the terms of the agreement with the Traditional Authority are understood and complied with;</li> <li>❖ To maintain an open and transparent communication with all stakeholders and authorities including reporting of any significant environmental incidents and or accidents; and</li> <li>❖ To appoint employees in accordance with the labour laws.</li> </ul>
<p><b>Contractor or Site Manager (SM)</b></p>	<p>The following are roles and functions of the successful contractor who is hired to construct the fuel services:</p> <ul style="list-style-type: none"> <li>❖ Ensuring that all construction activities are undertaken in accordance with the provisions of the EMP.</li> <li>❖ Ensuring that all its employees and sub-contractors for various trades (plumbers, electricians, joineries, pavers, bricklayers, carpenters, etc.) comply with the EMP.</li> <li>❖ Rehabilitation of the site on completion of the construction activities to the satisfaction of all parties, the developer, the local authority and the Principal Agent.</li> <li>❖ To pay for any damages which may result from non-compliance with the EMP, environmental regulations and applicable legislation.</li> </ul>
<p><b>Fuel Service Manager (FSM)</b></p>	<p>Bedzo, the promoter has to ensure that a key person whose designation is that of Fuel Service Manager (FSM) is appointed. The person so appointed should be well experienced and suitably qualified. Among the duties and functions of the FSM are to:</p> <ul style="list-style-type: none"> <li>❖ ensure that the terms and conditions attached to the ECC and all other permits and licenses are adhered to and copies of such documents kept at the site office;</li> </ul>

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
	<ul style="list-style-type: none"> <li>❖ appoint suitable staff and personnel for the fuel service station in compliance with the labour laws of Namibia ensuring that a fair and transparent recruitment process is followed;</li> <li>❖ appoint an environmental officer to oversee the implementation of all environmental commitments and obligations;</li> <li>❖ maintain an open and transparent communication with all stakeholders and authorities including reporting of any significant environmental incidents and or accidents;</li> <li>❖ manage the day-to-day activities of the filling station by endeavoring to find environmentally responsible solutions to problems and to keep copies of all environmental reports on file;</li> <li>❖ give training on the EMP or to arrange for such training if outsourced to a third party;</li> <li>❖ keep a register of all environmental related complaints received and actions taken in response to such complainants; and</li> <li>❖ ensure that the required actions are undertaken to mitigate the impacts resulting from non-compliance, and report all incidences of non-compliance to the promoter.</li> </ul>



**Figure 1: Project Location**

### 3. MANAGEMENT MEASURES

Measures to mitigate environmental impacts associated with development and operation of the site are provided in two broad categories as follows:

Mitigation measures for specific issues identified during the Scoping Assessment applicable to these phases of the operation:

- ❖ Planning and design phase
- ❖ Construction phase
- ❖ Rehabilitation phase
- ❖ Operational /maintenance phase

Generic mitigation measures applicable to all phases of the development.

#### 3.1 Presentation

Mitigation measure are presented in a table format in which environmental aspects are listed followed by recommended management measures, the timing when the intervention is more or less required and the party responsible for ensuring compliance

#### 3.2 MITIGATION MEASURES FOR SPECIFIC ISSUES

In **Table 3**, mitigation measures are provided for specific impacts and or aspects related to the construction and operation of the fuel service station proposed by Bedzo.

**Table 3:** EMP on Specific Mitigation Measures

Aspect	Mitigation Measures	Timing	Responsible Party
<b>PLANNING AND DESIGN PHASE</b>			
<b>PRELIMINARY</b>			
<b>Compliance requirements</b>	Ensure that all activities pertaining to the development are compliant with applicable regulations with the necessary licenses and permits secured and in place, e.g. <ul style="list-style-type: none"> <li>❖ a valid ECC from MEFT;</li> <li>❖ a valid consent letter from MME;</li> <li>❖ drawing plans checked and approved by MME;</li> <li>❖ a Fuel Retail Licence issued by MME, and</li> <li>❖ employment contractors signed by both parties and copies kept on files.</li> </ul>	Prior to starting with the activity	Bedzo
	<ul style="list-style-type: none"> <li>❖ The design and work documents for the development must be prepared by a qualified and experience person.</li> </ul>	Planning stage	Engineering Consultants to be appointed by Bedzo
<b>Decarbonisation Initiatives</b>	<ul style="list-style-type: none"> <li>❖ During the planning stage, efforts should be made aimed at embracing decarbonisation initiatives in the operation of the facility. The position and orientation of roof structure covering the service station should allow for maximum use of solar panels.</li> <li>❖ Try to use green technology when erecting the construction campsite by installing solar power or wind generators instead of using diesel powered generator sets.</li> <li>❖ Where possible, procure and install water recycling facilities on the construction campsite and at the fuel service.</li> <li>❖ Design the facility in a manner that provides adequate day natural lighting and use energy saving bulbs.</li> <li>❖ During the construction phase, adequate potable chemical toilets with running water should be provided for the workers and visitors.</li> </ul>	Planning stage	Engineering Consultants to be appointed by Bedzo

	<ul style="list-style-type: none"> <li>❖ Where feasible an eco-friendly septic system should be installed to serve the filling station.</li> <li>❖ Avoid open air burning of wastes.</li> </ul>		
<b>Underground Storage Tanks</b>	<ul style="list-style-type: none"> <li>❖ The underground fuel storage tanks must comply with the relevant SABS Codes of practice.</li> <li>❖ A leak detection system including observation and monitoring wells situated around the tank should be installed to facilitate early warning that a leak has arisen.</li> <li>❖ The provision of plastic sheet below the tank that slopes towards an observation well is recommended.</li> <li>❖ Installation of lead detectors on the pressure system is recommended.</li> <li>❖ The tanks must be designed so as to reduce the risk of soil and groundwater contamination.</li> <li>❖ The underground tanks must be dipped daily and reconciled against fuel sold so as to determine any losses due to leakage.</li> <li>❖ The condition of the tanks, associated piping and the monitoring wells must be inspected on a regular basis.</li> </ul>	Planning stage	Engineering Consultants/Bedzo
Topography and topsoil disturbance	<ul style="list-style-type: none"> <li>❖ Develop an appropriate plan to minimise impacts on the topography and topsoil.</li> <li>❖ Develop a rehabilitation plan for implementation during the construction and operational phases of the facility.</li> </ul>	Planning stage	Engineering Consultants to be appointed by Bedzo
Site Surface Drainage	<ul style="list-style-type: none"> <li>❖ The design for the development should make provision for a suitable stormwater drainage network system.</li> <li>❖ After construction, the site should be contoured and properly paved to ensure free flow of runoff and to prevent any accumulation (standing) of water.</li> </ul>	Planning phase	Engineering Consultants to be appointed by Bedzo
<b>VISUAL IMPACTS</b>			
Lighting & dust	<ul style="list-style-type: none"> <li>❖ Ensure that the layout of the lighting at the facility, its extent and intensity do not become a nuisance to the village communities especially the neighbouring residents.</li> <li>❖ During the construction, stockpiles of building materials must be placed in manner that minimises dust being blown up from the such piles.</li> </ul>	Planning phase	Engineering Consultants to be appointed by Bedzo
<b>CULTURAL AND HERITAGE</b>			
Sites of archaeological and heritage significance	<ul style="list-style-type: none"> <li>❖ There are no known sites of cultural and heritage interest on and around the project site. In the event of any items of cultural or heritage nature being unearthed during construction activities – ‘the chance find’ as proposed in the generic section of the EMP should be implemented.</li> <li>❖ Prior training should be provided to employees involved in construction activities.</li> </ul>	Planning phase	Engineering Consultants to be appointed by Bedzo
<b>ECOLOGICAL</b>			
Alien vegetation	<ul style="list-style-type: none"> <li>❖ The site has been largely cleared of vegetation and already fenced in.</li> <li>❖ The layout of all building structures should be preceded by careful planning and laid out in a manner that minimises ecological impacts.</li> <li>❖ Excavation for foundations must be clearly demarcated and executed in a manner that results in minimal disturbance to the ecological aspects of the site.</li> <li>❖ Ensure that alien vegetation is not brought to the site by construction vehicles.</li> </ul>	Planning stage	Site Manager/Bedzo

Habitat disturbance	<ul style="list-style-type: none"> <li>❖ The site has been fenced in and therefore inaccessible by livestock roaming around in the settlement.</li> <li>❖ Ensure that the layout of the filling service's infrastructure is carefully considered and positioned in a manner that minimises habitat destruction.</li> <li>❖ Any sensitive areas must be identified, avoided and marked as a No-Go' areas.</li> <li>❖ Ensure that the infrastructure is confined within the geographical boundary of the land allocated.</li> </ul>	Planning stage	Engineering Consultants to be appointed by Bedzo
<b>CONSTRUCTION PHASE</b>			
<b>CONSTRUCTION ACTIVITIES</b>			
Communication with stakeholders	<ul style="list-style-type: none"> <li>❖ A line of communication should be kept with IAPs by the contractor.</li> <li>❖ A registry of complaints should be kept at the site office and all complaints entered in and discussed during site meetings.</li> <li>❖ A senior officer of the contractor should be available to provide information to IAPs as and when required to do so.</li> </ul>	Throughout the construction phase	Site Manager /FSM
Layout and siting of the contractor's campsite	<ul style="list-style-type: none"> <li>❖ Obtain permission from Linyanti Settlement Management to site the construction campsite outside the confines of the land allocated for the filling station.</li> <li>❖ Make the campsite big enough to provide overnight accommodation to the staff and workers as well as parking for construction vehicles, plants and equipment.</li> <li>❖ Site the campsite away from sensitive areas such as surface water drainage channels.</li> </ul>	Before construction	Site Manager/Bedzo
Ablution Facilities	<ul style="list-style-type: none"> <li>❖ Provide adequate toilet facilities for employees and visitors with clean drinking water and sanitation amenities.</li> <li>❖ Toilet facilities must not be located within 50 m of any known water resources or water drainage channels.</li> <li>❖ The construction of so-called 'long drop' toilets is strictly forbidden.</li> <li>❖ Under no circumstances may open areas or the surrounding bushes be used as toilet facilities by the workers.</li> <li>❖ The ablution facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.</li> </ul>	During the construction phase	Site Manager/FSM
Storage and Handling of Construction Materials (Goods)	<p>Storage areas for construction materials (bricks, sand, aggregates, cement, steel goods, door frames, brick-force, etc.) should be provided and clearly demarcated.</p> <p>Storage areas can be hazardous, unsightly and can cause environmental pollution if not designed and managed carefully.</p> <p>Lack of proper management of storage areas could lead to leakages, creating a negative impact on the surrounding natural ecosystems. These measures are recommended:</p> <p><u>Non-hazardous Substances and Materials</u></p> <ul style="list-style-type: none"> <li>❖ Choice of location for storage areas must take into consideration prevailing wind directions and general site topography.</li> <li>❖ Storage areas must be designated, demarcated and if necessary, fenced in.</li> </ul>	Throughout the construction phase	Site Manager

	<ul style="list-style-type: none"> <li>❖ Ensure storage areas are secured so as to minimize the risk of theft and crime.</li> <li>❖ All storage areas should be safe from access by the general public including children and animals.</li> <li>❖ Ensure adequate fire prevention facilities are present at all storage facilities.</li> <li>❖ Access to storage facilities should be limited to authorized personnel only</li> </ul> <p><u>Hazardous Substances and Materials</u></p> <p>Hazardous substances are those that are potentially poisonous, flammable and toxic. In the specific context of this development hazardous substances are: diesel, petroleum, oil, bitumen, solvent based paints, lubricants and LPG.</p> <ul style="list-style-type: none"> <li>❖ Hazardous storage areas must be bunded with an impermeable liner to avoid soil contamination.</li> <li>❖ Storage areas containing hazardous substance/materials must be clearly secured and sign-posted.</li> <li>❖ The proximity of neighbouring properties: C49, cuca shops, etc. should be taken into consideration when deciding on storage areas for hazardous substances.</li> <li>❖ Staff dealing with hazardous materials/substances must be properly trained, provided with suitable PPEs and made aware of their potential impacts and follow appropriate safety measures.</li> <li>❖ Access to the hazardous materials should be controlled and restricted to authorized personnel.</li> </ul>		
Risks associated with building materials on site	<ul style="list-style-type: none"> <li>❖ Material stockpiles or stacked such as pipes, etc. must be stable and well secured to avoid them collapsing and possibly causing injuries to site workers.</li> <li>❖ Flammable materials should be stored as far away as possible with access restricted to personnel who are qualified and allowed to handle such materials.</li> <li>❖ Firefighting equipment must be present on site at all times and in good working order.</li> <li>❖ Obstructions to driver's line of site due to stockpiles and stacked materials must be avoided especially at intersections.</li> <li>❖ No materials are to be stockpiled in unstable or high risk areas.</li> <li>❖ All interested and affected parties (IAPs) must be notified in advance of any known potential risks associated with the construction site and the nature of the risk.</li> <li>❖ All employees should be trained on the procedure to be followed in the case of an emergence.</li> <li>❖ All employees should be provided with suitable PPE and wearing of such PPE should be enforced.</li> </ul>	Throughout the construction period	Site Manager
Cement and Concrete Batching	<p>The following measures should be implemented when mixing concrete:</p> <ul style="list-style-type: none"> <li>❖ Concrete must not be mixed directly on the ground, or in any area where runoff may pose a pollution threat.</li> <li>❖ Locate any concrete batching activities to areas of low environmental sensitivity.</li> <li>❖ Keep cement/concrete batching neat and clean at all times.</li> <li>❖ Avoid handling cement during excessive windy conditions.</li> </ul>	Throughout the construction phase	Site Manager



	<ul style="list-style-type: none"> <li>❖ Store used cement bags in weather-proof containers to prevent windblown cement dust and water contamination.</li> <li>❖ Used cement bags must be disposed of in a responsible manner and must not be used for any other purpose.</li> <li>❖ All visible remains of excess concrete must be physically removed on completion of the concrete placement and disposed of as waste.</li> </ul>		
Site Surface Drainage	<p>To prevent soil erosion the following measures are recommended for site surface drainage:</p> <ul style="list-style-type: none"> <li>❖ The time that stripped areas are left open and exposed should be minimized wherever possible. Care should be taken to ensure that lead times are not excessive.</li> <li>❖ Wind screening should be undertaken to prevent soil loss from the site.</li> <li>❖ If construction work is done during the rainy season, storm water control should be exercised to avoid flooding of the work place.</li> <li>❖ High precipitation is often encountered during the months of November through to March.</li> </ul>	During the construction period	Site Manager
Waste Management & Handling	<ul style="list-style-type: none"> <li>❖ Bins and or skips should be provided at convenient intervals for disposal of waste.</li> <li>❖ Where appropriate waste bins should have liner bags for efficient control and safe disposal of waste.</li> <li>❖ Where feasible separate waste receptacles should be provided.</li> <li>❖ No waste may be buried or burned at the campsite or the construction site.</li> <li>❖ Waste must be disposed from the campsite and construction site on a regular basis and disposed of at an approved landfill site.</li> </ul>	During the construction period	Site Manager
Conduct of employees at the campsite	<p>To ensure a harmonious relationship on the campsite, a general regard for the social and ecological well-being of the site and adjacent areas is expected from the site staff and personnel. The following general rules should apply:</p> <ul style="list-style-type: none"> <li>❖ Provide training on the EMP.</li> <li>❖ No alcohol and drugs should be permitted on the campsite.</li> <li>❖ No firearms should be permitted on the campsite or in the vehicles transporting workers to and from the site (unless used by security personnel).</li> <li>❖ Excessive noise is not allowed.</li> <li>❖ Construction personnel should make use of the facilities provided for them as opposed to using ad-hoc alternatives (firewood for cooking, use of surrounding bush as toilet, etc.)</li> <li>❖ No abuse of consumables such as water, etc. is allowed.</li> <li>❖ Driving under the influence of alcohol is prohibited.</li> </ul>	Before, during and throughout the construction period	Site Manager/FSM
Dust and Air Pollution.	<p>Potential Impacts are: exhaust emissions, dust emission, smoke from poorly maintained construction vehicles and equipment, etc.</p> <p>These measures are recommended:</p> <ul style="list-style-type: none"> <li>❖ Limit speed limit around the construction site.</li> <li>❖ All construction vehicles should adhere to the set speed limit.</li> </ul>	Throughout the construction period	Site Manager

	<ul style="list-style-type: none"> <li>❖ Trucks delivering building construction materials should adhere to the minimum speed limit.</li> <li>❖ Materials excavated from foundation trenches and stockpiled aside should be dampened periodically to avoid excessive dust.</li> <li>❖ No open fire is allowed - contractor must provide alternative arrangements which avoid the use of open fire, i.e. LPG gas cookers, etc. so that smoke is not released in the open air.</li> </ul>		
Noise Disturbance	<p>Working hours:</p> <ul style="list-style-type: none"> <li>❖ Limit construction activities to day-light hours i.e. from 07h00 to 17h00, Monday to Friday, and from 08h00 to 13h00 on Saturdays.</li> <li>❖ No work may be performed on Sunday or public holiday unless permission is secured from the line ministry.</li> </ul>	During the construction period	Site Manager
	<p>Servicing and maintenance of plants &amp; construction vehicles:</p> <ul style="list-style-type: none"> <li>❖ Diesel-powered plants and vehicles should be well maintained and routinely serviced and defective silencers replaced.</li> <li>❖ Limit non-routine noisy generating activities such as maintenance of machinery, plants and equipment to day-time hours.</li> </ul>	During the construction period	Site Manager
	<p>Noise abatement measures:</p> <ul style="list-style-type: none"> <li>❖ Machinery &amp; plants that are used intermittently should be shut down between work period or throttled down to a minimum and not left running unnecessarily. This practice will reduce noise and at the same time conserve fuel.</li> <li>❖ Train machine operators to position the trucks without reversing in order to avoid the activation of disturbing but necessary reverse warning sound.</li> </ul>	Throughout the duration of construction	Site Manager
	<p>Personnel Protective Equipment (PPE):</p> <p>Provide employees with suitable PPEs and, where warranted, enforce wearing of such devices.</p>	Throughout the construction period	Site Manager
Visual Intrusion	<ul style="list-style-type: none"> <li>❖ Construction material storage areas, elevated tanks and other temporary structures on site should be located such that they have as little visual impact as possible.</li> <li>❖ Attention should be given to the screening of highly reflective materials on site.</li> <li>❖ Take the wind direction into consideration when selecting stockpile areas for building materials that are susceptible to wind erosion.</li> <li>❖ Keep heights of stockpiled materials as low as possible.</li> </ul>	Construction phase	Site Manager
Ecological	<p>Impact of alien vegetation brought to the site:</p> <ul style="list-style-type: none"> <li>❖ Confine excavation to the layout demarcated for the filling service infrastructure and limit clearance of plants and vegetation during the construction activities.</li> <li>❖ Ensure that vehicles and equipment used during the construction activities do not bring alien vegetation species to the project site.</li> <li>❖ Monitor all sites disturbed by construction activities for possible colonisation by exotics or invasive plants and control these as they emerge.</li> </ul>	Throughout the construction phase	Site Manager
Biodiversity	<ul style="list-style-type: none"> <li>❖ Avoid making open fire on the construction site, alternatively fire should be made at a dedicated area and used under direct supervision at all times.</li> <li>❖ Ensure that the construction site is kept clean and free of rubbish that could potentially attract wild animals and pests to the site.</li> <li>❖ Any birds that may be nesting in trees on and around the project site should not be disturbed.</li> </ul>	Throughout the construction period	Site Manager/ FSM

	<ul style="list-style-type: none"> <li>❖ Killings of livestock or including chicken that forage around in the village is strictly forbidden.</li> <li>❖ Poaching or capturing of any animals (wild or domestic) is prohibited.</li> </ul>		
<b>REHABILITATION POST CONSTRUCTION</b>			
Removal of structures	<ul style="list-style-type: none"> <li>❖ All erected structures at the construction campsite are to be removed from the site.</li> <li>❖ The whole campsite area must be checked for any spills of substances such as oil, paint and fuel which should be cleaned up.</li> <li>❖ Waste material of any description, including receptacles, scrap, rubble and tyres, must be removed and disposed of at a recognized landfill facility. No waste must be buried or burned on the site.</li> </ul>	At the end of construction	Site Manager /FSM
Removal of Construction Materials	<ul style="list-style-type: none"> <li>❖ Any fences, barriers and demarcations associated with the construction phase are to be removed from the site unless agreed otherwise with the promoter.</li> <li>❖ All residual stockpiles are to be removed from the site and transported for disposal to an approved landfill site.</li> <li>❖ All leftover building materials (sand, aggregate, bricks, paving, steel, corrugated iron sheet, cement, etc.) must be removed from the site.</li> <li>❖ The contractor must repair any damage caused to any neighbouring properties.</li> </ul>	During rehabilitation phase	Site Manager/ FSM
Land Rehabilitation	<ul style="list-style-type: none"> <li>❖ All surfaces hardened due to construction activities are to be ripped up and imported materials thereon removed. The area must be top-soiled and paved using heavy duty interlocks.</li> <li>❖ All building rubble is to be removed from the site and transported for disposal to an approved landfill site.</li> <li>❖ Burying of any rubble on site or anywhere outside the premises is prohibited.</li> <li>❖ The site is to be cleared of all litters and building rubbles.</li> </ul>	During the rehabilitation phase	Site Manager /FSM
<b>OPERATIONAL PHASE</b>			
Waste Management	<p>Non-hazardous waste:</p> <ul style="list-style-type: none"> <li>❖ Develop an in-house waste handling policy to deal with waste generated at the fuel service station.</li> <li>❖ Encourage sorting and separating of waste at source.</li> <li>❖ Procure adequate waste bins for the operation which should be colour coded for the temporary storage of waste.</li> <li>❖ Non-biodegradable and recyclable waste (plastics, cans, bottles, packaging materials, metal scraps, etc.) should be stored in containers and disposed of on a regular basis to an approved offsite facility.</li> <li>❖ Avoid wind dispersal of papers and plastics as it results in visual nuisance. Plastics can be fatal to animals when confused.</li> <li>❖ Organic waste (food items, potatoes skins, etc.) should be stored in bins with secure lids to prevent scavengers and household animals (dogs and cats) gaining access to such waste.</li> <li>❖ Scrap metals should be offered to scrap companies for sale.</li> </ul>	Duration of the service station	FSM

	<ul style="list-style-type: none"> <li>❖ Under no circumstances should waste be buried or burned on the property</li> </ul>		
	<p>Hazardous waste:</p> <ul style="list-style-type: none"> <li>❖ Develop a hazardous waste management plan for the facility.</li> <li>❖ Ensure that training on the handling and management of hazardous waste is given to all prospective employees.</li> </ul>		
Noise Disturbance	<ul style="list-style-type: none"> <li>❖ Noise levels at the site should be kept to the minimum and in compliance with the directives of the settlement committee.</li> <li>❖ Items such as compressors, standby generators and air conditioner motors should be placed in protected/enclosed areas and maintenance should be carried out on a regular basis.</li> <li>❖ Noise, including hooting should be kept to the minimum, especially at night.</li> </ul>	Throughout the lifespan of the site	FSM
Air Pollution	<ul style="list-style-type: none"> <li>❖ All USTs ventilation points must be position away from any building inlet of the service station.</li> <li>❖ Vent pipes must be fitted such that they face away from any neighbouring residential areas or business premises</li> <li>❖ All tank breather pipes must be fitted with standard vents to minimize the loss of vapour.</li> </ul>	Throughout the lifespan of the site	FSM
Mitigation measures with respect to potential contamination of soil, surface and groundwater	<ul style="list-style-type: none"> <li>❖ The forecourt should be concrete paved to prevent infiltration of fuel into the subsurface soils with surface runoff designed to flow towards a centralized collection point which is connected to an on-site oil/water separator (trap).</li> <li>❖ Underground storage tanks are to be fitted with an overfill protection system or device. The critical level shall be such that a space remains in the tank to accommodate the delivery hose volume.</li> <li>❖ Monitoring wells must be installed around the USTs for early leak detection. These should be checked on a regular (quarterly) basis for the presence of hydrocarbons using a hydrocarbon interface probe.</li> <li>❖ Monthly visual inspections must be conducted of all fuel dispensing equipment on the site to check for wear and damage. Visual and olfactory checks for possible product leaks should also be carried out across the site.</li> <li>❖ Conduct regular inspections of all pipes, tanks and other associated infrastructures.</li> <li>❖ Accidental spills that occur outside of the bunded area must be contained and prevented from entering the water drainage system.</li> <li>❖ Any significant spills or leak incidents must be reported</li> <li>❖ Fuel dispenser pumps must be located on a hardened surface to contain spillages</li> <li>❖ The oil/water separator must be inspected regularly to ensure that it is functional at all times</li> <li>❖ Overfill and spillages during taker refueling and fuel dispensing should be prevented by the installation of automatic cut-off devices.</li> <li>❖ All forecourt staff must undergo appropriate training which must include training to prevent spillages during fuel dispensing.</li> </ul>	Throughout the lifespan of the filling service.	FSM

	<ul style="list-style-type: none"> <li>❖ A closed coupling must be used when fuel is being transferred from the bulk delivery vehicle to the USTs.</li> <li>❖ An emergency response plan must be in place for the site, and this must clearly describe emergency procedures and include emergency contact numbers</li> <li>❖ If contamination of leaks is detected, the fuel supplier's emergency response plan must be followed.</li> <li>❖ Following a leak or accident spill, a remediation plan must be compiled and executed</li> </ul>		
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### 3.3 GENERIC MITIGATION MEASURES

These following management measures are considered as generic and relate to all phases of the fuel service station.

**Table 4:** EMP on Generic Mitigation Measures

Aspect	Management Measures	Timing	Responsible Party
<b>COMMUNICATION WITH STAKEHOLDERS</b>			
<b>Environmental Objective</b>	Ensure that regular communication is provided to stakeholders and IAPs on the development of the fuel service and that opportunities are provided for IAPs to continue raising any concerns (complainants) about any aspect of the development that may be affecting them.		
<b>Stakeholders &amp; IAPs:</b> Develop and maintain a registry of both statutory stakeholders and IAPs: ❖ GRN Agencies: MME, MEFT, ZRC, LCC , Settlement Committee, etc. ❖ Local Police (contact numbers) ❖ Local Clinic (contact numbers) ❖ Emergency Services (Fire Brigade, etc.) ❖ Service providers: Nored, Namwater, etc.		Ongoing throughout the project lifespan	FSM/Promoter
<b>Maintain good working relationships with Stakeholders:</b> ❖ Devise and implement a stakeholder communication and engagement strategy where information sharing meetings are held with IAPs. ❖ Keep all stakeholders informed about the progress being made with the project. ❖ Comply with the terms of the ECC by providing reports to the office of EC.		Quarterly during the development	FSM/Promoter
Record complaints received from IAPs, investigate such complainants and take corrective action.		Whenever a complainant is reported	FSM
<b>SOCIO-ECONOMIC IMPACTS</b>			
<b>Environmental Objective</b>	Optimize benefits to the local community by striving to become a responsible and caring local business entity contributing to the social upliftment of the community in which the project is located.		
<b>Enhance positive economic impacts:</b> ❖ Source and procure goods required for the development of the fuel service station from local suppliers: construction materials, PPEs, etc. ❖ Make use of local small-scale contractors for activities such as site clearing, installation of fencing, sanitation, etc. who are experienced and with good references.		When procuring	FSM
<b>Recruitment and Hiring Guidelines:</b> ❖ Ensure that employment is offered in compliance with applicable labour laws and regulations. ❖ Adopt a 'local first policy' when hiring workers for non-skilled positions by giving preference to the locals. ❖ Hire without discrimination on the basis of gender, race, language, background, religion or political affiliations. ❖ Give consideration to person from marginalized communities. ❖ Where positions are filled by non-Namibia, justification for such a decision must be provided to the responsible authority.		When hiring	FSM
<b>Labour &amp; Working Conditions:</b>		Duration of the project	FSM

<ul style="list-style-type: none"> <li>❖ Conditions of employment must be in writing with a copy kept on file and one copy given to the employee. The contract must state job specifications, working hours, remuneration, etc.</li> <li>❖ Give all employees an induction on the EMP, housekeeping rules including safety, grievances procedures and company policies.</li> <li>❖ Allow employees to join and belong to a trade union of their choice. Allow each employee charged with a misconduct the right to be represented during a disciplinary hearing.</li> <li>❖ Keep proper records on the number of employees hired, fulltime or part-time, contractors hired, payments made to contractors, salaries/wages, etc.</li> </ul>		
<b>TOPSOIL REMOVAL AND STOCKPILING</b>		
<b>Environmental Objective</b>	Topsoil carries the vegetation seed bank and should be carefully removed, stockpiled and preserved for the rehabilitation of site.	
<ul style="list-style-type: none"> <li>❖ Strip topsoil and stockpile separately from subsoil for subsequent rehabilitation and re-vegetation of the site.</li> <li>❖ Retain as much vegetation in the topsoil as possible. Treat all the soil materials from the natural ground level down to a depth of 300 mm as topsoil.</li> <li>❖ Treat topsoil with care and prevent unnecessary handling and compaction. Where possible, topsoil should not be pushed for more than 50 m. Do not drive trucks over topsoil stockpiles.</li> <li>❖ Suitable sites for topsoil stockpiles must be selected which are away from any sensitive areas.</li> <li>❖ Unless otherwise instructed, topsoil must not be mixed with any other type of material, nor contaminated with machine oils or any other pollutant.</li> <li>❖ Keep the heights of topsoil stockpiles under 2 m to minimise wind and water erosion. Ensure that the material does not blow or wash away.</li> <li>❖ Topsoil areas must be demarcated in order to ensure the safekeeping of topsoil and to separate different stockpile types.</li> </ul>	During the construction phase	Site Manager /FSM
<b>HEALTH, SAFETY AND SECURITY</b>		
<b>Environmental Objective</b>	Strive to operate a fuel service that is safe and free from injuries, criminal activities and theft.	
<ul style="list-style-type: none"> <li>❖ The design and management of the fuel service station must conform to the relevant fire safety measure.</li> <li>❖ Ensure that all underground storage tanks (USTs) are certified to SANS/SABS standards/codes.</li> <li>❖ No smoking is allowed in the vicinity of flammable substances and the relevant signage must be displayed.</li> <li>❖ The condition of the USTs, pipes and dispensing pumps should be checked on an annual basis using approved methodologies and the required maintenance activities undertaken.</li> <li>❖ A license to store petroleum or flammable liquid should be obtained annually from the relevant authority.</li> <li>❖ The USTs filling procedure must be monitored by an authorized employee to ensure that no procedural as well as health and safety requirements are neglected by the fuel supplier/contractor.</li> <li>❖ Firefighting equipment must be available at all times, in a functional state and serviced regularly.</li> <li>❖ Operational staff must receive training on the correct operation of storage tanks, as well as maintenance and repair procedures when leaks are detected.</li> </ul>	During construction & operational phases	Site Manager/ FSM

<ul style="list-style-type: none"> <li>❖ An emergency response plan must be available on site and employees must be familiar with the plan.</li> <li>❖ Employees should be provided with suitable PPEs and wearing thereof enforced.</li> <li>❖ No cell phones may be used during the dispensing of fuel.</li> <li>❖ Overfill and spillage during the tanker refueling and fuel dispensing should be prevented by the installation of automatic cut off devices</li> </ul>		
<b>SPILL HANDLING</b>		
<b>Environmental Objective</b>	<b>Protect amenity values by striving to operate a fuel facility that is hazardous free without leaks and spills that can harm the natural environment.</b>	
<p>A Spill Contingency Plan (SCP) or Emergency Response Plan must be drawn up and ensure that staff, personnel, etc are acquainted with the plan. The SCP should include the following actions that need to be taken into account in the event of a spill:</p> <ul style="list-style-type: none"> <li>❖ Contain the spill.</li> <li>❖ The person spotting the spill or leak must reported immediately to the Site Manager (Construction phase) or to the Fuel Service Manager (Operational phase).</li> <li>❖ Remove the spilled product for treatment or authorized disposal.</li> <li>❖ In case of a minor spillage, clean the affected area and drum all contaminated materials for temporary storage until the waste can be collected and disposed of in the manner as prescribed.</li> <li>❖ The Site Manager or SFM is to determine if the there is any soil, groundwater or other environmental impacts.</li> <li>❖ The incident and remedial action taken must be documented by the Site Manager (Construction) or FSM (Operational phase) and kept on file for reference purposes.</li> <li>❖ Compliance with relevant legislative in terms of health and safety must be ensured.</li> <li>❖ Protect surface and groundwater sources from direct and indirect spillage of pollutants such as refuse, garbage, concrete, sewerage, fuels and oils.</li> </ul>	Ongoing during the construction and operational phases	Site Manager/ FSM
<b>FIRE HANDLING</b>		
<b>Environmental Objective</b>	<b>Protect amenity values by ensuring that hazardous products are carefully handled without causing fire which can cause destruction to properties and the natural environment.</b>	
<ul style="list-style-type: none"> <li>❖ No fires may be lit on site, other than in designated areas, i.e. kitchen, etc.</li> <li>❖ Establish that suitable fire drills are regularly performed, fire procedures clearly understood, and that all fire-fighting equipment is readily accessible and in good working order.</li> <li>❖ All electrical fittings and wiring at the fuel service station must be done by qualified personnel and regular maintenance carried out.</li> <li>❖ Smoking must not be permitted in those areas where there is a fire hazard e.g. fuel dispensing areas, etc.</li> <li>❖ The use of cellphones during re-fueling or in close proximity to fuel dispensing devices is prohibited.</li> <li>❖ Flammable items such as LPG bottles, etc. must be kept away from sources of heat.</li> </ul>	Ongoing throughout the operational phase	FSM
<b>VISUAL INTRUSIONS</b>		
<b>Environmental Objective</b>	<b>Ensure that measures are put in place to limit the visual impacts from the fuel facility.</b>	



<ul style="list-style-type: none"> <li>❖ Lighting on site should be sufficient for safety and security purposes, and should not be disturbing to the neighbouring communities and the general public.</li> <li>❖ Outside lights are to be inward and downward shining and preferably of low voltage.</li> <li>❖ Sufficient refuse bins must be provided on site and littering and illegal dumping discouraged.</li> <li>❖ Litter and waste should be effectively managed to avoid visual problems in the area.</li> <li>❖ Buildings and all structures on the premises should receive on-going maintenance to avoid visual decay.</li> <li>❖ Signs must conform to the national standards for outdoor advertising.</li> </ul>	Construction & Operational Phases	Site Manager/ FSM
<b>ARCHAEOLOGICAL AND CULTURAL HERITAGE</b>		
<b>Environmental Objective</b>	Safeguard and protect any findings of archaeological or cultural heritage nature until directives are received from the relevant officials on what to do.	
Train employees involved in the construction of the filling station on the 'chance find' procedure to be followed when an item of cultural or heritage significance has been unearthed during excavation.	Before construction work starts	SM/SFM
<p>Action by the individual who makes the discovery during construction activities:</p> <ul style="list-style-type: none"> <li>❖ If operating a machine, stop work immediately.</li> <li>❖ Mark the site with flag tapes.</li> <li>❖ Determine GPS reading if possible.</li> <li>❖ Report findings to immediate Site Manager/Foreman</li> </ul>	Construction phase only	SM
<p><b>Action by the Site Manager or Foreman:</b></p> <ul style="list-style-type: none"> <li>❖ Check the work site and ascertain if work can continue without any damage to the items unearthed.</li> <li>❖ Determine and mark the 'spot' as out boundary for all employees.</li> <li>❖ Notify officials of the NHC in Windhoek.</li> <li>❖ Ensure that the project site is added to the project GIS for field confirmation by an archaeologist or a suitably qualified person.</li> </ul>	Before removal of items found	SM
<p><b>If finding is 'human remains' this action should be taken:</b></p> <ul style="list-style-type: none"> <li>❖ Inspect site and ensure that it is safely secured.</li> <li>❖ Invite the local Nampol to the site.</li> <li>❖ Invite officials from NHC to visit the site</li> <li>❖ Confirm addition of the item to project GIS.</li> <li>❖ Advise NHC and request written permission to remove findings from the working area</li> </ul>	Prior to removal of items	SM
<p><b>Action by an Archaeologist</b></p> <ul style="list-style-type: none"> <li>❖ Inspect site and confirm addition to project GIS.</li> <li>❖ Advise NHC and request written permission to remove findings from the working area.</li> <li>❖ Under the supervision of an archaeologist, recover, pack and label finding for transfer to National Museum</li> </ul>	Before items are removed from the site	NHC

## 4. MONITORING AND REPORTING

### 4.1 Monitoring

The promoter is expected to develop a monitoring plan to manage the potential impacts associated with its proposed service station at Linyanti. The monitoring plan should, amongst other things, comprise of the following aspects:

- ❖ Parameters which must be monitored and at what intervals.
- ❖ Suitable equipment to be used and should be appropriately calibrated.
- ❖ Where samples require analysis, preserve such samples according to laboratory specifications.
- ❖ Monitoring data must be stored in a structured database.
- ❖ The data and the reports must be kept by management for the duration of the project.

It is recommended that monitoring be conducted on those aspects presented in Table 5, below and at intervals as indicated:

**Table 5: Monitoring of Impacts**

ACTIVITY	ASPECT	MONITORING REQUIREMENTS	BY WHO	TIMING
Construction Phase	Compliance	All applicable permits and licenses secured and on file	Bedzo	Prior to starting with construction
	Vegetation clearing	<ul style="list-style-type: none"> <li>❖ Photographs taken of vegetation before and after clearing.</li> <li>❖ Number and type of spared trees.</li> </ul>	Site Manager/Bedzo	Daily during construction
	Preservation of topsoil	<ul style="list-style-type: none"> <li>❖ Soil stripping equipment,</li> <li>❖ Observation of stripping, and</li> <li>❖ Topsoil stockpiling practices.</li> </ul>	Site Manager	Check weekly during the construction
	Correct use of topsoil	<ul style="list-style-type: none"> <li>❖ Observe use of topsoil post construction activities.</li> <li>❖ Compare with photos taken prior to construction.</li> </ul>	Site Manager	During rehabilitation
	Water use	<ul style="list-style-type: none"> <li>❖ Water installation facilities,</li> <li>❖ Water consumption rates, etc.</li> </ul>	Site Manager	Monthly
	Dust Pollution	<ul style="list-style-type: none"> <li>❖ Dust measures implemented,</li> <li>❖ Number of complainant reports</li> </ul>	Site Manager	Daily otherwise when a complaint is received
	Waste – solid & hazardous	<ul style="list-style-type: none"> <li>❖ An in-house developed waste plan.</li> <li>❖ Nature of waste bins provided,</li> <li>❖ Types and quantities of bins supplied as well as locations of such bins.</li> <li>❖ Sewerage inspections.</li> </ul>	Site Manager	Daily, duration of construction
	Visual	<ul style="list-style-type: none"> <li>❖ Physical height of topsoil stockpiles</li> <li>❖ Physical height of infrastructure erected.</li> <li>❖ Position and types of light fixtures.</li> <li>❖ Working hours, etc.</li> </ul>	Site Manager	During the construction
	Social impacts - Local economy & procurement	<ul style="list-style-type: none"> <li>❖ Number of people employed from the community.</li> <li>❖ Number of people employed from outside</li> <li>❖ Items procured locally.</li> <li>❖ Number of complainants received.</li> </ul>	Site Manager	During the construction period

ACTIVITY	ASPECT	MONITORING REQUIREMENTS	BY WHO	TIMING
Rehabilitation post construction	Removal of structures from the site	<ul style="list-style-type: none"> <li>❖ Are all structures removed from the site?</li> <li>❖ Has the contractor's campsite been rehabilitated</li> </ul>	Site Manager	Upon completion of construction
	Removal of building rubble, etc.	<ul style="list-style-type: none"> <li>❖ Are all building rubbles removed from the site</li> <li>❖ Is the concrete batching cleaned</li> </ul>	Site Manager	Upon completion of construction
Operational Phase	Noise pollution	<ul style="list-style-type: none"> <li>❖ Are employees working in noisy area provided with suitable PPEs?</li> <li>❖ Are compressors, standby generators and air conditioners placed in protected /enclosed areas and maintained regularly?</li> </ul>	FSM	Check monthly
		<ul style="list-style-type: none"> <li>❖ Number of complainants received with respect to noise generation?</li> </ul>		
	Health, Safety and Security	<ul style="list-style-type: none"> <li>❖ Are the USTs, pipes and dispensing pumps checked.</li> </ul>	FSM	Annually
		<ul style="list-style-type: none"> <li>❖ Are firefighting equipment available and in a functioning state.</li> </ul>	FSM	Annually
	Spill & Fire Handling	<ul style="list-style-type: none"> <li>❖ Did any spill of hazardous products occur at the facility?</li> </ul>	FSM	Check quarterly and report annually
		<ul style="list-style-type: none"> <li>❖ Number of fire drills performed.</li> </ul>	FSM	Check quarterly and report annually
		<ul style="list-style-type: none"> <li>❖ Number of signage posted around the facility.</li> </ul>	FSM	Check regularly and report annually
	Dust	<ul style="list-style-type: none"> <li>❖ Area of the fuel service paved.</li> <li>❖ Complainants reports received</li> </ul>	FSM	Check quarterly
	Visual	<ul style="list-style-type: none"> <li>❖ Height of infrastructure, forecourt, etc.</li> <li>❖ Lighting layout.</li> <li>❖ Complainants received.</li> </ul>	FSM	Check upon completion and if complaint is received.
	Employment	<ul style="list-style-type: none"> <li>❖ Number of locals employed and conditions of employment.</li> <li>❖ Remuneration and employment benefits offered.</li> </ul>	FSM	Report annually or when a complaint has been received
	Local procurement	<ul style="list-style-type: none"> <li>❖ List of good procured from local suppliers</li> <li>❖ Amount of funds spent on local procurements, etc.</li> </ul>	FSM	Monitor quarterly and report annually

## 4.2 Reports

As a minimum, an annual report on environmental aspects on the operation should be submitted to MEFT not later than three months after the end of the production cycle.

Any fuel leaks or spill that may occur at the site during the construction and operation in excess of 200 litres must be reported to MME stating how the spill occurred and measures put in place to prevent re-occurrence.

## **5. CONCLUSION AND RECOMMENDATION**

Although every attempt has been made to address all possible potential mitigation measures in this document, the EMP should be considered as a day-to-day management tool, which sets out the minimum environmental and social standards that are required, to minimise the negative impacts and maximize the positive benefits to the broader members of the society.

The EMP should be reviewed on an on-going basis and any changes or amendments made communicated to the EC. Based on the observations made during site inspection, it is incumbent upon the promoter, once the facility has been established, to make a careful assessment of whether any modifications to the mitigation measures, as proposed in this EMP may be required, in order to improve the overall efficiency and applicability of the EMP to the prevailing operational circumstances of the fuel service station.

Apart from the legal compliance, adherence to the recommendations in this EMP will result in a well-managed fuel service station, which in turn will minimise operational costs, and potential negative environmental impacts.

It is recommended that an ECC be granted to Bedzo Investments CC for the development of its envisaged fuel service at Linyanti Settlement. The need for such a facility exists at Linyanti and this has been confirmed by the Road Fund Administration.