

**UPDATED ENVIRONMENTAL MANAGEMENT PLAN(EMP) FOR
THE EXISTING & OPERATIONAL BH WAREHOUSING STORAGE
FACILITY LOCATED IN OMUNGWELUME COMMUNAL AREA,
OHANGWENA REGION**



Assessed by:
NYEPEZ CONSULTANCY CC



Application for Environmental Clearance for:
BH SPARES ACCESSORIES EQUIPMENTS &
TECHNOLOGIES

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Windhoek, Namibia

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PREFACE

The main objective of the EMP is to identify the project specific activities that should be considered as having significant adverse impacts, monitoring and required mitigation measures. It is therefore in the best interest of the developer / investor to ensure that the capacity of the ecosystem is sustained by mitigating environmental degradation that could potentially harm the enterprise.

The updated project management and mitigation measures, environmental and social commitments that are supposed to be undertaken by the respective production managers and a framework for implementation of this management plan have been proposed and are for the protection of the environment and sustainability of the project.

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

- ensure that the Light industrial development operations comply with acceptable environmental standards;
- ensure that compliance with environmental legal standards is achieved and maintained in the ongoing management of operations;
- Provide clear directives for personnel regarding the actions required to prevent and/or minimize adverse environmental impacts; promote sustainable development through minimizing the adverse environmental impacts in the local environment and utilizing environmental resources responsibly; and promote good relationships with the communities within which the business operates.
- To prescribe the best and practicable control methods to lessen the environmental impacts associated with the operations of the light industrial project
- To monitor and audit the performance and of operational personnel to supply such control

1. INTRODUCTION

The proponent (**BH Spares, Accessories, Equipment & Technologies cc**) owns and operates different and various business outlets in the Northern part of Namibia. BH Investments cc thus operates various warehousing business storage facilities in Northern Namibia, including a BH Warehousing facility in Omungwelume Communal area of Ohangwena region. This Business facility has been existing and operational since 2017 when they were constructed. However, the construction, development and existence of the facility is by law required to comply with the Namibian Environmental Management Act. Given the sensitivity of the land uses on the project sites and the socio-economic impacts associated with the business facility, it is thus required that an Environmental Clearance Certificate be obtained by the proponent from the Ministry of Environment, Tourism and Forestry to ensure environmental audit, compliance, minimize and preventing of the adverse negative impacts of the existing operational facility.

The warehousing storage in Omungwelume Communal area is currently located in Omungwelume with GPS Position: *Lat -17.490585, Lon 15.631484*. This It is therefore a requirement through the Namibia Environmental Act, Act no. 5 of 2007, that due to environmental concerns an ECC should be acquired for the continuous operational activities of this facility.

The Omungwelume BH Warehousing storage facility development project is currently existing as it was already constructed. The business facility is to house different subsistence produced farming goods and products mainly produce from local communal farmers for safe keeping, storage, value-addition and transportation of such items for export or to other parts of the Country. The size of the warehouse storage facility in Onankali covers about 2,000 square meters of building coverage onsite. There are no other operating facilities on the project area except for the warehousing storage facility that were constructed and developed to serve such multiple purposes.



Figure 1: Project area against town boundary

1.2 Project activities and Leasehold

The BH warehousing storage building facility were constructed using locally available building materials. The BH warehouse's framework was constructed from high-quality steel beams, columns, and trusses. Because steel is durable, versatile, and fire- and pest-resistant, it is preferred over other materials. Thus, the most common material used for warehouses is steel, creating a pipe framework that supports the outside cladding and roof.

BH Spares, Accessories, Equipment & Technologies cc has thus applied to the **Communal Land Board of Ohangwena** to register this facility so that the facility could be leased by communal or community members for storing of goods and non-hazardous materials to safekeep and safeguard the goods. Other than agricultural product goods to be stored in this facility, the facility will also

be used to store any raw materials, packing materials, spare parts, components, or finished goods associated with agriculture, manufacturing, and production

The Omungwelum BH Warehousing storage facility project and ECC requirements presents a re-assessment of the potential environmental, occupational health and safety, social and community impacts of construction and development of the Warehousing storage facility. The required compliance ECC document is therefore a statutory legal support document required by any Namibian Land Boards for approval of any leasehold agreement, hence the crafted updated Environmental Management Plan subsequently proposes risk mitigation measures and design enhancement as part of the facility operations. The findings of the desktop study reveals that the development of a Warehousing storage facility pose no high risk and/or potential environmental

damage but has more positive socio-economic benefits and impacts to improve the livelihoods of communities living in Onankali Communal area of Ohangwena region.

The Oukwanyama Traditional Authority
Oshikwiyu, Omungwelum
Ohangwena Region

28 June 2023

Dear Mr. Absalom Hamalwa

I, Ben Hauwanga; ID no 63 0204 0095 3 hereby declare that.

1. I was allocated land from the above Authority for business purpose at Oshikwiyu. (Hardware)

In.....

2. I have bought the land from the previous owner.

Mr./Me. L. Kapiye

in 2017

[Signature] Date: 30-10-23

Ben Hauwanga
081 124 2317

Facilitator on behalf of Mr. B. Hauwanga
Emily Alcock ID. No. 71 0302 0017 3
Avondia Property Developers cc.
081 344 2576




Figure 2: Consent letter

1.3 Main Objective

- To apply for the ECC to comply with operations of the existing and operational BH warehousing storage facility operations in Omungwelum Communal area, Ohangwena region.
- To provide a brief background for the development & construction of BH Spare Warehousing in Omungwelum development project and its proponents;
- Provide for the Compliant and updated Environmental Management Plan for the project and explain all matters in relation to the Bio-physical environment of the project area
- To explain the process that was followed during the Environmental Scoping Study;
- To explain the process that was followed during the Environmental Scoping Study;



Figure 3: Existing BH Spares warehouse building

1.4 Project Development Activities

The Warehouses & storage facility were constructed and developed in the year 2017 for storing and dispatching vehicle spares and other material for commercial business purposes. The following facilities were established on the site mainly comprising of the following sections.

- An office space (consisting of reception, 2 staff toilets, & two toilets for workers)
- Two Large warehouses light Industrial storage buildings
- A parking area, loading & offloading zone
- Pedestrian walkways & Landscaping
- Servitudes for erf service lines

1.5 Aims of the Study

The aims of initial scoping submitted was to:

- Comply with Namibia's Environmental Assessment Policy, Environmental Management Act (2007) and its February 2012 EIA Regulations;
- To provide for a compliant and updated Environmental Management Plan for activity monitoring and evaluation purposes
- Consult all Interested and Affected Parties (I&AP's) to ensure that their input is taken into account;
- Review the legal and policy framework and its relevance to this project;
- Describe the biophysical and socio-cultural environment of the project to determine its sensitivities and suitability;
- Identify and assess impact related to the construction, operation and later decommissioning of the poultry farm and associated infrastructure and propose suitable mitigation strategies.
- A Management plan in line with the 2012 EIA Regulations of the Environmental Management Act (2007) and terms of reference is therefore required for submission and approved as there was no initial ECC issued for the operation of this business facility.

1.6 Locality

The project is located on a 5,600 sqm of Omungwelume communal land (Ohangwena Region) with **GPS coordinates: Lat -17.490585, Lon 15.631484** in the Communal lands. The project site is Located about 1km Outside Omungwelume Townlands with an existing fence yard. The area is un-proclaimed with no registered zoning.

Omungwelume is part of Ohangwena areas settlement (with an estimated population of 1000 people). Both Ongenga Settlement and Omungwelume Settlements are found in one constituency of Ongenga the north-western side of the region. Omungwelume is typical a Namibian rural setting with income derived from agriculture, businesses, cash remittances, salaries and wages and pensions. The predicted environmental impacts can be managed resulting in minimal or insignificant residual effects through the successful implementation of the proposed Environmental Management Plan (EMP).

The initial EIA report concluded that all identified risks can be easily mitigated and managed by implementing the hierarchy of controls following environmental management standards, best practices and management systems. Specific instructions have been formulated as part of the Environmental and Social Management Plan (EMP). The updated EMP will therefore be used as an onsite management tool during any renovations and construction, operations and decommissioning phases of the project. **BH Spares, Accessories, Equipment & Technologies cc** therefore, appointed by Nyepuz Consultant cc to apply for the Environmental Clearance Certificate for compliance. The Environmental Impact Assessment (EIA) was conducted under the requisites of the Environmental Management Act (EMA) (Act 7 of 2007) and its Regulations (2012).

Figure 4: Project area 5,600 Square meters

Image 1: Locality Map



Image 3: Site Map 2



LOCALITY MAP: BH SPARES WAREHOUSING FACILITY
AT OMUNGWELUME, OHANGWENA_Size 5600sqm



Legend

- BH Spares Warehouse development_Omungwelume
- Feature 1



Omungwelume is part of Ohangwena areas settlement (with an estimated population of 1000 people). Both Ongenga Settlement and Omungwelume Settlements are found in one constituency of Ongenga the north-western side of the region. Omungwelume is typical a Namibian rural setting with income derived from agriculture, businesses, cash remittances, salaries and wages and pensions. The predicted environmental impacts can be managed resulting in minimal or insignificant residual effects through the successful implementation of the proposed Environmental Management Plan (EMP). The initial EIA report concluded that all identified risks can be easily mitigated and managed by implementing the hierarchy of controls following environmental management standards, best practices and management systems. Specific instructions have been formulated as part of the Environmental and Social Management Plan (EMP). The updated EMP will therefore be used as an onsite management tool during any renovations and construction, operations and decommissioning phases of the project.

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Figure 5: Project site



Figure 6: Project locality area

1.7 Project Economics Operations

The objectives of establishing and developing the site was to;

- Implement Economic Development Element Goal 1 of the Region General Plan by creating a revenue-generating use that capitalizes on nearby transportation corridors, stimulates employment, and responds to current market opportunities.
- Provide new land uses that are compatible with existing surrounding uses and consistent with the Omungwelume General Plan and Zoning Ordinance.
- Concentrate industrial uses near existing roadways, highways, and freeways to reduce traffic congestion, air emissions, and impacts to residential neighborhoods.
- Provide for a range of Agricultural- industrial warehouse, and office land uses in the project area.
- Facilitate goods movement for the benefit of local, regional, state wide, and nationwide economic growth.
- Provide new development that will generate a positive fiscal balance for the town/city in the years ahead.
- Develop multiple adjacent parcels concurrently with industrial, warehouse, and office land uses in a planned, orderly, and efficient manner that avoids creating fragments of open space that will be difficult to use in the future.

Project	Potential Impacts
Construction	No construction activity to be undertaken this year as the project is operational. About 70% construction was already completed in 2017 and only 30% left for future establishment of Solar plant on 9.2 hectares.
Decommissioning	Nuisance dust generated from demolition equipment and general decommissioning activities

2. LEGAL AND REGULATORY REQUIREMENTS

The Namibian Environmental Management Act (Act No. 7 of 2007) promotes the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment. With regard to managing ambient air quality in a sustainable way and limiting impacts, health-based ambient standards, emission standards, and ambient monitoring are considered the most appropriate approaches.

3. IMPACT ASSESSMENT

3.1 Identification of key impacts

A summary of the major impacts likely to be caused by the operational Light Industrial development project during its operations can be summarized as follows:

Table 1: key impacts

Potential Impact activities	
Socio economic	The project is predicted to have a positive impact on the local, regional and national economy as it will boost investment, increase household income and employment, promote local economic development and procurement and increase various taxes. It will promote trade development within the Government
Noise	Noise was identified in the screening phase as an issue of concern and a noise specialist study was commissioned. As there are currently no noise regulations governing noise emissions in Namibia, the specialist study assessed the predicted noise levels against the South African guideline values. For construction, the increase in day-time noiselevels above the already elevated baseline is less than 3 dBA at the surrounding residential areas and is below the level considered noticeable. Hence, the impact is low. Since construction activities will be limited to day-time hours, night-time impacts were not modelled.
Traffic	As the traffic generated will be substantially less than for the normal highway roads (less than 10% of the total volume generated), it is concluded that the contribution to overall traffic volumes and impacts on road sections and intersections within the trans-Caprivi highway will be the same as that predicted by the Traffic Study 2009 i.e. low.

Visual	The visual assessment looked at the change to the view and the response of the public to that change, and to the overall effect with respect to visual amenity. The Warehouse & Storage will be 15 m in height, about 50 m from the nearest residences and clearly visible from the Omungwelume & the access gravel road to the site area.
Air quality	The main pollutant will be dust generated during the construction operations and wind erosion of exposed surfaces during episodes of strong winds. With appropriate mitigation measures like wetting down, dust curtains, and curtailment of activities in very windy conditions, it should ensure that the significance of the impact during construction is low. The impact is localized and is not considered an issue for the wider public
Archaeology	The site is within the communal land but situated adjacent to the town's industrial setting, which is slowly modified and unlikely to contain any archaeological remains. The impact is therefore assessed to be low. As all historical sites are protected under the National Heritage Act 2004, if in the event that any historical site is uncovered during construction works, it will not be disturbed and a permit will be obtained from National Heritage Council prior to any disturbance.
Groundwater	Existing information on groundwater in the vicinity of the project indicates that it is normal, shallow and fit for both human & animal consumption. Potential pollution sources could arise during the construction activities, especially in the event of a spill. Potential significance of the impact in the unmitigated scenario is medium which can be reduced to low through proper construction management and controls i.e. bunding, containment and clean up measures.
Wastewater and waste material	Wastewater will be generated through the washing of surfaces, ablution facilities and general usage. All wastewater generated by the operations will be collected and discharged to sewer following pre-treatment. All stormwater will be diverted away from the site. The main waste arising from the proposed operation will include broken pallets, packing material, plastic wrapping, and cardboard cartons etc. The overall impact arising from wastewater and solid waste is considered low. Measures will need to be taken to where possible minimize, reuse and recycle waste material, in particular with respect to the plastic wrapping

The impacts are summarized in the following table, together with their significance rating:

Table 2: Impact significance rating

Aspect	Impact	Significance of Impact (Negative unless stated otherwise)	
		Without Mitigation	with Mitigation
Socio Economic	Increased economic development	Medium +	
	Increased trade development with Ohangwena	Medium +	
	Job creation	Medium +	
	Increased influx of people to Omungwelume	Medium	Low
	Loss in property value	Medium	Low
Noise	Noise impact on residences during construction	Low	Low
	Noise impact on residences during operation, particularly those living at the alongside the road in Omungwelume settlement.	Low	Low
Traffic	Traffic impact traffic volumes and road sections with the settlement of Omungwelume	Low	Low
	Traffic impact on stakeholders within the project site	Low	Low
Visual	Visual impact during construction on surrounding residences	Medium	Medium
	Visual impact during operations on surrounding residences	Medium	Medium-low
Air Quality	Air quality impact during construction due to dust generation	Medium	Low
	Air quality impact during operations due to accidental ammonia release and carbon monoxide emissions	Low	Low
Groundwater	Groundwater impact during construction due to pollution	Medium	Low
	Groundwater impact during operations	Low	Low
Wastewater & Waste Material	Wastewater and waste material generated during both construction and operations	Low	Low

Summary

The project has the potential to benefit Ohangwena region and the local economy. The obligation for the proponent (BH Spares, Accessories, Equipment & Technologies cc) is to ensure that in achieving these benefits, they prevent or mitigate the negative social and environmental impacts that will arise from the project. The mitigation measures ~~discussed~~ above are detailed in the EMP and BH Spares, Accessories, Equipment & Technologies cc will be legally bound to implement these measures.

Key Consideration Area

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

4. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION

4.1 Assessment of Impacts

The purpose of this section is to assess and identify the most prominent environmental impacts and provides possible mitigation measures that are expected from both operational and the decommissioning of activities for the Warehousing storage industrial facility. The potential environmental effects associated with the implementation of the operational project are evaluated in the following environmental issue areas:

4.2.1 Aesthetics

4.2.2 Air Quality

4.2.3 Hydrology and Water Quality

4.2.4 Land Use and Planning

4.2.5 Noise

4.2.6 Transportation and Traffic

These identified impacts were assessed and evaluated in different phases of the development. By subjecting each of the potential impacts to the criteria stipulated above, it is possible to establish the significance of each impact prior to implementing mitigation measures and then after mitigation measures have been implemented. Detailed descriptions of management actions in terms of mitigation measures are contained in the sections below.

The process of accessing the significance of each of the possible impacts is contained in the above tables. It must be noted that the impacts described in these tables considers the nature of the potential impact before (pre) and after (post) mitigation as set out in this EMP.

Although the significance rating of the most of the impacts can be reduced considerably to a “low significance” by implementation proper mitigation measures the proponent should however understand that a “low significance” impact still exerts pressure on the environment and therefore the proponent should intend to go beyond the prescribed mitigation and management measures provided in this report by aiming to improve the remaining environment. There are specific policies and guidelines that address environmental issues related to the development. The policies and guidelines were referred to in the Scoping report legal section.

Table 3: criteria used to describe impacts Description

Nature	Reviews the type of effect that the proposed activity will have on the relevant component of the environment and include “what will be affected and how”
Extent	Indicates whether the impact will be site specific: local (limit to within 15 km of the area): regional (limited to -100 km radius); national (limited to the coastline of Namibia); or international (extending beyond Namibia’s borders)
Duration	Reviews the lifetime of the impact, as being short (days, <1 month), medium (months, <1 year), long (years, <10 years), or permanent (generations, or >10 years).
Intensity	Establishes whether the magnitude of the impact is destructive or innocuous and whether or not it exceeds set standards, and is described as none (no impact); low (where natural/social environmental functions and processes are negligibly affected); medium (where the environment continues to function but in a noticeably modified manner); or high (where environmental functions and processes are altered such that they temporarily or

	permanently cease and/or exceed legal standard/requirements).
Probability	Considers the likelihood of the impact occurring and is described as improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of prevention measures).
Degree of confidence in predictions	Is based on the availability of specialist's knowledge and other information

The application of the above criteria to determine the significance of potential impact uses a balanced combination of duration, extent, and intensity/magnitude, modified by probability, cumulative effects, and confidence. Significance is described as follows.

Significance Rating	Criteria
Low	Where the impact will have a negligible influence on the environment and no modifications or mitigations are necessary for the given project description.
Medium	Where the impact could have an influence on the environment, which will require modification of the project design and/or alternative mitigation. This would be allocated to impacts of moderate severity/magnitude, locally to regionally, and in the short term
High	Where the impact could have a significant influence on the environment and in the event of a negative impact the activities causing it, should not be permitted (i.e. there could be a no-go implication for the project, regardless of any possible mitigation). This would be allocated to impacts of high magnitude, locally for longer than

	a month, and/or of high magnitude regionally and beyond.
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The FAO guidelines for fields projects (FAO, 2012) was used during the assessment.

Table 4: Environmental categories for FAO field projects

Environmental Category	Environmental and Social Impacts	Environmental Analysis or Assessment Required
Category A	Significant, or irreversible adverse impacts	Mandatory environmental impact assessment
Category B	Less significant adverse impacts that may be easily prevented or mitigated	Environmental analysis to identify more precisely potential negative impacts
Category C2	Minimal or no adverse impacts	No further environmental and/ or social analysis or assessment required

NB: Based on the above FAO's categories of field project analysis, the Warehousing Light development facility at Omungwelum falls under category B, where there are less significant adverse impacts that may be easily prevented or mitigated. Environmental analysis is required for analysis to identify more precisely potential negative impacts. The following box below specifies the type of projects under Category B, which according to FAO (2012) do not require a full EIA but will require further deepening of environmental or social considerations, depending on the expected magnitude of risks. In many cases, the analysis would aim at gathering additional information in sufficient detail so as to be able to discuss concretely how risks could be addressed and minimized (and possibly eliminated) in the project design.

According to Pastakia (1998) the Rapid Environmental Assessment method was used to assess projects related to the Light Industrial development project and Pastakia's method was used during the assessment. The ranking formulas are calculated as follows;

$$A=A1 \times A2$$

$$B=B1 + B2 + B3$$

$$\text{Environmental Classification (ES)} = A \times B$$

Table 5: Environmental Classification of Impacts according the Rapid Impact Assessment Method of Pastakia 1998

Environmental Classification (ES)	Class Value	Description of Class
108 to 72	5	Major positive change/impact
71 to 36	4	Significant positive change/impact
35 to 19	3	Moderate positive change/impact
10 to 18	2	Positive change/impact
1 to 9	1	Slight positive change/impact
0	0	No change/status quo/not applicable
-1 to -9	-1	Slight negative change/impact
-10 to -18	-2	Negative change/impact
-19 to -35	-3	Moderate negative change/impact
-36 to -71	-4	Significant negative change/impact
-72 to -108	-5	Major negative change/impact

Table 6: Assessment Criteria

Criteria	Score
Importance of condition (A1) –Assessed against the spatial boundaries of human interest it will affect	
important to national/international interests	4
important to regional/national interests	3
important to areas immediately outside the local condition	2
important only to the local condition	1
No importance.	0
Magnitude of changes /effects (A2) –measure of scale in terms of benefits of an impact or condition	
Major positive benefits	3
Significant improvement in the status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in the status quo	-1
Significant negative disbelief or change	-2
Major disbelief or change	-3

Permanence (B1) –defines whether the condition is permanent or temporary	
No change/not applicable	1
Reversible	2
Permanent	3
Cumulative (B3) –reflects whether the effects will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition-not to be confused with the permanence criterion	
Light or No cumulative Character /Not applicable	1
Modern Cumulative character	2
Strong Cumulative character	3

Table 7: Criterion for Impact Evaluation (Directorate of Environmental Affairs, 2008)

Risk Event	Description of the risk that may lead to an impact
Probability	<p>Refers to the probability that a specific impact will happen following a risk event</p> <p>Improbable (low likelihood)</p> <p>Probable (distinct possibility)</p> <p>Highly probable (most likely)</p> <p>Definite (impact will occur regardless of prevention measures)</p>
Confidence level	<p>The degree of confidence in the predictions based on the availability of information and specialist knowledge</p> <p>Low (based on the availability of specialist knowledge and other information)</p> <p>Medium (based on the availability of specialist knowledge and other information)</p> <p>High (based on the availability of specialist knowledge and other information)</p>
Significance (no mitigation)	<p>None (A concern or potential impact that, upon evaluation is found to have no significant impact to all)</p> <p>Low (any magnitude, impact will be localised and temporary. Accordingly, the impact is not expected to require amendment to the project design)</p> <p>Medium (Impacts of moderate magnitude locally to regionally in the short term, accordingly the impact is expected to require modification of the project design or alternative mitigation)</p> <p>High (Impacts of high magnitude locally and in the long term and/or regionally and beyond. Accordingly the impact could have a ‘no go’ implication for the project unless mitigation or re-design is practically achievable)</p>

Mitigation	Description of possible mitigation measures
Significance (with mitigation)	<p>None (A concern or potential impact that, upon evaluation is found to have no significant impact to all)</p> <p>Low (any magnitude, impact will be localised and temporary. Accordingly, the impact is not expected to require amendment to the project design)</p> <p>Medium (Impacts of moderate magnitude locally to regionally in the short term, accordingly the impact is expected to require modification of the project design or alternative mitigation)</p> <p>High (Impacts of high magnitude locally and in the long term and/or regionally and beyond. Accordingly, the impact could have a ‘no go’ implication for the project unless mitigation or re-design is practically achievable)</p>

The following tables evaluate the identified impacts, both positive and negative of the farming project activities on the environment. This includes the social, economic and natural environment affected by the activities on the proposed site.

4.2 Construction Phase Impacts Prior to Mitigation

4.2.1 Negative Impacts of Low Significance for the construction phase prior to mitigation

NEGATIVE IMPACTS (LOW)	DESCRIPTION OF IMPACT
Hydrology: Storm water and drainage	The development will result in a low marginal increase in storm water run-off, especially where vegetation was cleared for the construction of warehouses, roads and associated infrastructure. This requires some management to prevent soil erosion.
Land transformation: Erosion	Exposed land might be susceptible to wind and water erosion.
Land transformation: Dust levels	The proposed development may not result in increased dust levels during the construction phase.
Land transformation: Noise levels	Increased noise levels due to earthmoving and construction equipment.
Land transformation: Visual impact	Land clearing and soil preparation could create a temporary visual impact.

Floral biodiversity	Vegetation will be impacted where earthmoving activities (vegetation clearing and bulldozing / disturbance of the topsoil) are necessary during the construction period. The development will however not result in a complete removal of this vegetation within the development project site. The local loss of this vegetation type due to the development on the subject land will have a small overall effect and will not endanger the future of this vegetation type.
Increased traffic volume	The transportation of construction equipment and materials to the site will increase traffic levels in the area.
Waste – Sewage/effluent/ hydrocarbons	Little or no sewage will be generated during land clearing and construction. Spillage and/or leakage of hydrocarbons by construction vehicles and machinery may cause chemical contamination of soil and groundwater.
Waste – Building rubble and littering	There will not be a significant amount of building rubble generated during the construction phase. Construction workers might litter during this phase but rubbles to be disposed a given periodic intervals of the week.
Heritage	The proposed development will not have an impact of great significance on archaeological or palaeontological remains that might be encountered during implementation of the project.

4.2.2 Positive Impacts identified for the construction phase prior to mitigation

POSITIVE IMPACTS	DESCRIPTION OF IMPACT
Socio-Economic – upliftment of quality of life	Approximately 75 employment opportunities were and/are to be created during the construction & operation phase. Approximately 75% of the expected value of these employment opportunities will be accrued to previously disadvantaged individuals.

4.3 Operational Phase Impacts Prior to Mitigation

4.3.1 Negative Impacts of Low Significance for the operational phase prior to mitigation

NEGATIVE IMPACTS (LOW)	DESCRIPTION OF IMPACT
Land transformation – Dust levels	The project development may not result in increased dust levels during the operational phase.
Land transformation – Noise levels	The project site is situated in a rural area and the communities in the area should be accustomed to the sound of working machinery. The operation of light industry itself have not and will not generate any significant levels of noise during the operational phase. Some noise could arise in relation to the expected increase in traffic to and from the site, especially at the end of a production cycle
Heritage	The proposed development is not expected to have any significant impact on archaeological or palaeontological remains during the operational phase.

4.3.2 Negative Impacts of Medium-Low Significance for the operational phase prior to mitigation

NEGATIVE IMPACTS (MEDIUM-LOW)	DESCRIPTION OF IMPACT
Hydrology – Storm water and drainage	The roofs of the office building & warehouse storage will increase storm water runoff. Soft surface will absorb water flow into the ground.
Hydrology – Water supply	Water use for gardening or watering the trees within the project vicinity
Land transformation – Soil chemistry and fertility	Soil chemical properties and vegetation yield can however be negatively affected if large amounts of manure is applied over long periods of time.
Land transformation – Visual impacts	The proposed project is consistent with the existing and/or proposed industrial zoning of the Katima Mulilo town council thereby creates compatible land uses

	All buildings and associated infrastructure will be sited as unobtrusively as possible. A natural buffer zone is and will be maintained between the project site and neighboring land uses. Indigenous trees and shrubs are and will be planted and maintained to reduce visibility from adjoining roads and properties.
Increased traffic volume	The transportation of products or material to and from the warehouses & store rooms will increase traffic levels in the area.
Land transformation – Loss of ecological processes (Ecological Support Areas)	The construction of roads and fence lines through the project site area will impact on Ecological Support Areas (ESAs) and the level of ecological connectivity (corridors) that they offer. No disposal or irrigation of grey water will occur within a few meters from any watercourse. Ablution facilities for workers will be placed in the building.
Land transformation – Odour nuisance levels	The development is located well away from any human settlements (about 1km) and the building will be cleaned and disinfected after every production cycle. Subject to good management of light industrial development project systems and waste disposal, odour should not present a significant impact.
Faunal biodiversity	Potential faunal habitat will be lost, transformed and fragmented due to the clearance of land and the construction of infrastructure.
Floral biodiversity	Approximately 10 ha natural veld will be cleared for the construction of warehouses and associated infrastructure.
Waste – Sewage/effluent/ hydrocarbons	There is one potential sources of effluent – sewage from ablution facilities. Relatively small amounts of waste water are generated during the cleaning office building house which occurs at the end of each production cycle.
Veldfire	Machinery and human activity will increase hellfire risk levels, especially during the dry seasons.

4.3.3 Positive Impacts for the operational phase prior to mitigation

POSITIVE IMPACTS	DESCRIPTION OF IMPACT
Socio-Economic: Economic upliftment	<p>Approximately 75 permanent employment opportunities created during the operational phase. Approximately 60% of the expected value of the employment opportunities will be accrued to previously disadvantaged individuals.</p> <p>The project Light Industrial development will make the site area economically more viable. The development will be the main source of bulk material storage and warehousing since there are only 1 small material storage in the Ohangwena region</p>
Socio-Economic: Food security	<p>The local production and subsequent operation of the industrial at the Omungwelume settlement communal area will boost the Environmental Management Programme Expansion of the economy of settlement and surrounds, while aiding in securing the local availability and access to an additional economic boost.</p>
Socio-Economic: Healthier food option produced in a more humane and sustainable manner	<p>The demand for safe keeping of food products is however escalating due to an increased demand for healthy living and an increased awareness regarding food welfare.</p> <p>The proposed project will thus supply an alternative safe place for holding or keeping food, and supplying product materials in a secure and healthier environment for the town of Omungwelume and the entire Ohangwena region in a sustainable manner.</p>

As depicted in the tables above, impacts related to the operational phase are expected to mostly be of medium significance but can mostly be mitigated to have a low significance. The extent of the impacts is mostly of low likelihood. An Environmental Management Plan (EMP) ensures that the impacts of the operational phase are minimized and include measures to reduce the identified impacts during the operation of the light industrial project activities while ensuring that the local environment is rehabilitated and employees working on the project are suitably protected to avoid accidents and injuries.

4.4 Mitigation Measure

Potential negative impacts can arise from poor project design, construction activities, improper wastewater and effluent discharges and unqualified farm management. **NB:** Management will take into consideration careful project design; good site selection and Construction of warehouse & storage facility will minimize habitat impacts by avoiding delicate habitats and where disturbance is inevitable retaining as much vegetation as possible and replanting where necessary.

Table 8: Summary of expected operational phase impacts prior to mitigation

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

Impact Category	Impact Type	Class Value
BE	Waste pollution	-1
BE	Ecosystem and Biodiversity impact	-1
EO	Fire	-2
PC	Groundwater, surface water and soil contamination	-1
SC	Skills, Technology and development	2
SC	Employment	2
SC	Cumulative	-2

5. ENVIRONMENTAL AND SOCIAL MITIGATION AND MANAGEMENT PLAN

5.1 Aesthetic Mitigation Measure

With implementation of the project well designed architectural drawings in line with the required building standard and mitigation measures, impacts to aesthetics will be reduced to a level of less than significant. The proposed project does not result in any adverse significant impacts to aesthetics.

5.2 Air Pollution Mitigation Measures

The spraying of water around the areas of the construction site, borrow pits and quarry during construction work must be done to mitigate the escape of dust particles to the atmosphere. The process of spraying water should be carried out at least three times on every construction day

especially if construction work is carried out during the dry season. Haulage trucks must be covered or the aggregates sprayed with water before loading the haulage trucks.

5.3 Ground and Surface Water Contamination Mitigation Measure

Removal of soil vegetative cover should be kept at minimum and should only be carried out with absolute necessity. The development of the landscape and planting of trees and vegetative cover should be carried out after construction work. To avoid oil contaminant into water bodies, a system for the proper collection and disposal of lubricants at both site and maintenance depot should be maintained. In the absence of a sewage system, septic tanks are and/or should be located far away from ground water aquifers. The constant monitoring of ground and surface water quality Should be maintained.

5.4 Mitigation Measure against Changes in Land Topography

Mitigation measure against changes in the topography of the land is geared towards minimizing the changes in the natural drainage pattern of the surrounding areas. To ensure this, the changes in the topography of the land should be kept at minimum. Otherwise, the restoration of the natural drainage the site relating to the surrounding areas should be restored after construction.

5.5 Noise Mitigation Measure

Mitigation measure to reduce noise around the vicinity of the site is geared towards ensuring that surrounding inhabitant and people staying in close proximity around the site are not adversely affected by noise due to the activities at the construction sites or area. The light industrial project development site area to be used for the construction work is remotely located away from residential and office areas. However, due to artisanal extraction of aggregates by locals, a few shanty dwellings are erected some 1kilometers away from the project site. Therefore, the following measures are deemed to mitigate the impact of noise to the surrounding environment.

- Fitting proper mufflers to vehicles and construction equipment to minimize noise pollution.

- Sensitization and discussion with residential and local Omungwelume community around the sites about the working hours and the impact of noise.
- The use of hearing protection gears by workers when exposed to noise levels above
- Construction and haulage activities to be limited to daytime.

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

6. DECOMMISSIONING PHASE

Developmental projects are usually temporary to permanent in nature and after a certain period of operation, the associated infrastructures will be decommissioned and the sites closed. It will be important that activities during this phase are carried out in an environmentally sound manner, leaving as little impact as possible on the environment. To this end, a decommissioning and closure will be developed.

The main objectives of the plan will be to:

- Promote alternative economic activities in the area that are sustainable in the future;
- Ensure the safety of surrounding communities through public consultation and the erection of warning signs.
- Return the land to conditions capable of supporting the former land use, or where this is not practical, or feasible, an alternative sustainable land use; and
- Prevent potential significant adverse effects on adjacent environs.

Where possible, BH Spares, Accessories, Equipment & Technologies cc will ensure that progressive rehabilitation is undertaken so that the rate of rehabilitation is similar to the rate of borrow pit operations.

Table 9: Fundamental criteria for closure

Issue	Closure Objectives
Physical stability	All remaining anthropogenic structures are physically stable
Chemical stability	The biological environment is restored to a natural, balanced ecosystem typical of the area, or is left in such a state so as to

	encourage and enable the natural rehabilitation and/or reintroduction of a biologically diverse, stable environment
	Closure aims at preventing physical or chemical pollutants from entering and subsequently degrading the downstream environment – including surface and ground waters
Geographical and climatic influences	Closure is appropriate to the demands and specifications of the location of the site in terms of climatic (e.g. rainfall, storm events, seasonal extremes) and geographic factors (e.g. proximity to human habitations, topography, accessibility of the mine)
Local sensitivities and opportunities	Closure optimized the opportunities for restoring the land and the upgrade of the land use is considered whenever appropriate and/or economically feasible
Land use	Rehabilitation is such that the ultimate land use is optimized and is compatible with the surrounding area and the requirements of the community
Funds for closure	Adequate and appropriate readily available funds need to be available to ensure the implementation of the closure plan
Socio-economic considerations	Consideration will be taken of opportunities to communities whose livelihoods may depend on the employment and economic fallout from project activities. adequate measures made to ensure that the socio-economic implications of closure are maximized

7. CONCLUSIONS AND RECOMMENDATIONS

This Environmental Management Plan Report has addressed the key issues as identified and no significant impacts have been identified.

7.1 Conclusion

The project, has brought huge positives results for the district of Omungwelume communal area, Ohangwena region and the entire Namibia. Both the primary, secondary and tertiary beneficiaries are widely spread across Namibia but with the largest number and therefore more positive impacts in Omungwelume settlement town and surrounding environments.

The initial desktop research process undertaken in 2023 allowed both the developer and other stakeholders to interact, openly identify positive and potential negative impacts both from a social-human environment and biophysical environment.

Based on these interactions and also on other national and international practices, it is concluded that on the basis of the environmental and socio-economic assessment undertaken and based on a very wider consultation and the professional expertise employed, the positive impacts of Light Industrial project far outweigh the negative impacts. BH Spares, Accessories, Equipment & Technologies cc project has followed the due process of the law on environment. The socio-economic impacts of the project are largely positive, while negative impacts are minimal. These impacts will be adequately avoided through best management practices and compliance. No families were and will be displaced by the project. In addition, a project impact management and monitoring framework has been proposed and therefore merit support.

The stakeholders more especially the communities of Omungwelume are highly positively expectant of the Light Industrial Warehouse & Storage facility development in Ohangwena region and wanted the project to be implemented. NYEPEZ Consultants therefore recommends that the project to continue its operation and development due to its outlined benefits.

7.2 Recommendations

Development related impacts must be prevented or mitigated by implementing strict monitoring and control. All permits and approval must be obtained from the relevant ministries or authorities for the operation of the light industrial business, such as business fitness certificates & certificates of operation from Ministry of trade. It is imperative that the mitigation measures as set out in the ESMP be implemented during the planning (layout design) construction and operational phases to prevent unnecessary damage to the natural environment.

The ESMP should be added to all contractors' agreements and be signed by such contractors. The recommendations made in this report places the developer under a legal obligation to ensure that all mitigation measures are implemented and followed through during construction and operation of the Light industrial Solar Plant, Warehouse & storage facility.

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