

# Environmental Management Plan

**PROPOSED DEVELOPMENT OF !NARA NAMIB FREE  
ECONOMIC INDUSTRIAL ZONE ON PORTIONS 2, 3 AND 4  
OF FARM 58, WALVIS BAY, ERONGO REGION PROJECT  
DETAILS**

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## ABBREVIATIONS

AIDS	Acquired Immuno-Deficiency Syndrome
DR	Developer's Representative
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
GG	Government Gazette
GIS	Geographic Information System
GN	Government Notice
GPS	Global Positioning System
HIV	Human Immuno-deficiency Virus
I&APs	Interested and Affected Parties

NHC	National Heritage Council
Reg.	Regulation
S	Section
TB	Tuberculosis

## 1 INTRODUCTION

The opportunity to make use of good port infrastructure and growing transportation infrastructure to a large sub-continental African hinterland, through industrial value addition has long been recognised. To this end, land for a large green field industrial development with excellent access to the Port of Walvis Bay, the International Airport and proximity to utilities and road-rail transport infrastructure has been identified and earmarked.

To make this project a reality, the Namibian Industrial Development Agency (NIDA) procured a joint development partner for the development of !Nara Namib Free Industrial Economic Zone (!NNFEIZ). (!NNFEIZ is a new port-centric free economic zone industrial development at Walvis Bay. The !NNSEZ development entity entered into a Memorandum of Understanding (MoU), laying the foundation for a strategic partnership with DP World, a Dubai-based specialist port and free zone operator. DP World operates port centric free zones internationally, with a flagship project at Jebel Ali responsible for US\$83.1 in annual trade creating 150 000 permanent jobs. The importance of the strategic partnership is underscored by DP World's ability to generate trade volume flows through Walvis Bay due to its international trade logistical role.

Master Planning for a world class industrial estate at !NNFEIZ is now progressing to provide serviced industrial stands and bespoke industrial superstructures to an international customer base. The development is conceptualised in a modular manner to optimise infrastructure, allow a flexible response to market needs and seamless expansion. A first phase of 50ha is currently being designed, as part of a 403ha site allocated to NIDA by the Municipality of Walvis Bay. NIDA and the proponent has entered into a partnership through a special purpose vehicle known as !Nara Namib Free Economic Industrial Zone (!NNFEIZ).

Trade logistical efficiencies, according to a recent World Bank study, impacts on up to 70% of GDP growth. Trade logistics are also key to the creation of quality jobs as localities with poor access to international trade corridors remains uncompetitive. !NNFEIZ is therefore key to the industrialisation targets set for Namibia through leveraging off investments in making the country a trade logistical hub.

Importantly, an initial investment of N\$308 million into serviced stands on the 1st phase will unlock an estimated N\$1.7 billion in industrial superstructures. This investment will ramp up over the development period to a total potential development value of over N\$50 billion. The potential GDP impact of investment at this scale is significant and equates to 25% of Namibia's economic value.

Another benefit is that Namibia is seen as a trade logistic alternative to South African and East-African trade channels that are experiencing challenges including multiple inefficient border crossings, worsening security, xenophobia and social instability. Namibia is becoming

an increasingly attractive investment option for South African manufacturers, mining companies seeking to beneficiate resources and logistics enterprises seeking a more cost effective location. Customers that understand the comparative advantages of Namibia and the strategic value of the !NNFEIZ partnership will benefit from choosing Walvis Bay as an investment location.

It is thus the opportune time for !NNFEIZ and the established strategic partnership has the potential to unlock the right incentives, value creation and investment returns to make this project an international success. !NNFEIZ, as a port-centric special economic zone development, holds national significance for Namibia by growing its economic impact beyond the limits of the domestic economy.

The proponent appointed Environam Consultants Trading cc (ECT) to undertake the Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the activity from the Office of the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT).

The process will be undertaken in terms of the gazetted Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA Regulations) of the Environmental Management Act (No 7 of 2007) (herein referred to as the EMA). The EIA process will investigate if there are any potential significant bio-physical and socio-economic impacts associated with the proposed development and related infrastructure and services.

The EIA process would also provide an opportunity for the public and key stakeholders to provide comments and participate in the process. It will also serve the purpose of informing the proponent's decision-making, and that of MEFT.

An EMP is one of the most important outputs of the EA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the following phases of this development:

- Planning and Design - the period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of the land, are made and engineering designs are carried out. The preparation of construction tender documents forms part of this phase;
- Construction - the period during which the proponent, having dealt with the necessary legislative and administrative arrangements, appoints a contractor for the construction of services infrastructure, buildings as well as any other construction process(s) within the development areas;

- Operation and Maintenance - the period during which the development will be fully functional, operational and maintained.

It is not envisaged to decommission the development in the immediate future. However, should this be considered at the end of its useful life, the area has to be restored to *ante operam* conditions. It is recommended that a decommissioning plan should be developed within the first 24 months of operation.

## 2 ROLES AND RESPONSIBILITIES

!Nara Namib Free Economic Industrial Zone (Pty) Ltd (the Developer) is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase of this development, if the development is in future decommissioned. The developer will delegate this responsibility as the project progresses through its life cycle. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals:

- Developer's Representative;
- Environmental Control Officer; and
- Contractor (Construction and Operations and Maintenance).

### 2.1 DEVELOPER'S REPRESENTATIVE

The Developer should assign the responsibility of managing all aspects of this development for all development phases (including all contracts for work outsourced) to a designated member of staff, referred to in this EMP as the Developer's Representative (DR). The Developer may decide to assign this role to one person for the full duration of the development, or may assign a different DR to each of the development phases - i.e. one for the planning and design phase, one for the construction phase and one for the operation and maintenance phase. The DR's responsibilities are depicted in **Table 2-1** as follows:

**Table 2-1: DR's responsibilities**

Responsibility	Project Phase
Making sure that the necessary approvals and permissions laid out in <b>Table 4-1</b> are obtained/adhered to	Throughout the lifecycle of this development
Making sure that the relevant provisions detailed in <b>Table 5-1</b> are addressed during planning and design phase.	Planning and design phase

Responsibility	Project Phase
Suspending/evicting individuals and/or equipment not complying with the EMP	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>
Issuing fines for contravening EMP provisions	<ul style="list-style-type: none"> <li>• Construction</li> <li>• Operation and maintenance</li> </ul>

## 2.2 ENVIRONMENTAL CONTROL OFFICER

The DR should assign the responsibility of overseeing the implementation of the whole EMP on the ground during the construction and operation and maintenance phases to a designated member of staff, referred to in this EMP as the Environmental Control Officer (ECO). The DR/Developer may decide to assign this role to one person for both phases, or may assign a different ECO for each phase. During the operation phase the Developer may outsource the monitoring and evaluation of the EMP to an independent Environmental Consultant. The ECO will have the following responsibilities during the construction and operation and maintenance phases of these developments:

- Management and facilitation of communication between the Developer, DR, the contractors, and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is quarterly) of all construction and/or infrastructure maintenance areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP);
- Assisting the Contractor in finding solutions with respect to matters pertaining to the implementation of this EMP;
- Advising the DR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the DR with respect to the issuing of fines for contraventions of the EMP; and
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

### 2.3 CONTRACTOR

Contractors appointed by the Developer are automatically responsible for implementing all provisions contained within the relevant chapters of this EMP. Contractors will be responsible for the implementation of this EMP applicable to any work outsourced to subcontractors. **Table 5-2** applies to contractors appointed during the construction phase and **Table 5-3** to those appointed during the operation and maintenance phase. In order to ensure effective environmental management the aforementioned chapters should be included in the applicable contracts for outsourced construction, operation and maintenance work.

The tables in **Chapter 5** detail the management measures associated with the roles and responsibilities that have been laid out in this chapter.

### 3 ASSUMPTIONS AND LIMITATIONS

This EMP has been drafted based on the scoping-level Environmental Assessment (EA) conducted for the proposed development as represented by the developer. ECT will not be held responsible for the potential consequences that may result from any alterations to the initial concept and layout.

It is assumed that construction labourers will be sourced mostly from the Walvis Bay area and that migrant labourers (if applicable) will be housed within the town of Walvis Bay.

### 4 APPLICABLE LEGISLATION

Legal provisions that have relevance to various aspects of this development are listed in **Table 4-1** below. The legal instrument and applicable corresponding provisions are provided.

**Table 4-1:** Legal provisions relevant to this development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	Article 91 (c) provides for duty to guard against “the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”  Article 95(l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	Section 2 outlines the objective of the Act and the means to achieve that. Section 3 details the principle of Environmental Management	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	GN 29 Identifies and lists certain activities that cannot be undertaken	<b>Activity 10.1 (a)</b> The construction of -



LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	without an environmental clearance certificate. GN 30 provides the regulations governing the environmental assessment (EA) process.	Oil, water, gas and petrochemical and other bulk supply pipelines;  <b>Activity 10.1 (b)</b> The construction of - Public roads;  <b>Activity 10.1 (c)</b> The construction of - Railways and harbours;  <b>Activity 10.2 (a)</b> The route determination of roads and design of associated physical infrastructure where - It is a public road
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment, Forestry and Tourism (MEFT) Policy on HIV & AIDS	MEFT has developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor/s have to adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when construction workers interact with local communities.
Urban and Regional Planning Act (Act of 2018).	Urban and Regional Planning Act (Act of 2018) regulates subdivisions of portions of land falling within a proclaimed Local Authority area.	Section 16 of Chapter 3 deals with the Ministers' declaration of authorised planning authorities and establishment of joint committees.
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council. Sections 34-47 make provision for the aspects of water and sewerage.	The development has to be comply with the provisions of the Local Authorities Act

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Labour Act no 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
Public Health Act no 36 of 1919	Section 119 prohibits persons from causing nuisance.	The developer and contractors are to comply with these legal requirements.
Nature Conservation Ordinance no 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants have to be managed within the legal confines.
Atmospheric Pollution Prevention Ordinance (No. 11 of 1976).	The Ordinance objective is to provide for the prevention of the pollution of the atmosphere, and for matters incidental thereto.	All activities on the site will have to take due consideration of the provisions of this legislation.
Roads Ordinance 17 of 1972	This Ordinance consolidates the laws relating to roads.	The provisions of this legislation have to be taken into consideration in as far as access to the development site is concerned.
Roads Authority Act, 1999	Section 16(5) of this Act places a duty on the Roads Authority to ensure a safe road system.	Some functions of the Roads Ordinance 17 of 1972 have been assigned to the Roads Authority.
Walvis Bay Town Planning Scheme.	The town planning scheme has as its general purpose the co-ordinated and harmonious development of the local authority area, or the area or areas situate therein.	The site fall in the local authority area of Walvis Bay and has to conform to the Walvis Bay Town Planning Scheme.

## 5 MANAGEMENT ACTIONS

The aim of the management actions in this chapter of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce them.

The following tables provide the management actions recommended to manage the potential impacts rated in the scoping-level EA conducted for this development. These management actions have been organised temporally according to project phase:

- Planning and design phase management actions (**Table 5-1**);
- Construction phase management actions (**Table 5-2**);
- Operation and maintenance phase management actions (**Table 5-3**);

The responsible persons at the Developer's team have assessed these commitments in detail and have committed to the specific management actions where indicated in the tables below.

## 5.1 PLANNING AND DESIGN PHASE

The DR should ensure that the management actions detailed below in **Table 5-1** are adhered to during the period before the construction of the infrastructure starts.

**Table 5-1:** Planning and design management actions

PLANNING AND DESIGN PHASE IMPACTS	
Impact	Mitigation Measures
Surface and Ground Water	<ul style="list-style-type: none"> <li>• Appoint professional engineers to develop a detailed storm water management design as part of the infrastructure service provision of the development.</li> <li>• The service infrastructure should be designed and constructed by suitably qualified engineering professionals.</li> <li>• Develop and implement a preventative maintenance plan for the service infrastructure.</li> <li>• No dumping of waste products of any kind in or in close proximity to any water bodies.</li> <li>• Ensure that surface water accumulating on-site are channelled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment.</li> <li>• Wastewater should not be discharged directly into the environment.</li> <li>• Disposal of waste from the development should be properly managed.</li> <li>• Hazardous waste and contaminated water and soil must be disposed of at an appropriately classified facility or by approved contractors. Hazardous waste disposal certificates must be kept on file.</li> <li>• All hazardous substances must be stored in a properly bunded area to prevent any spillages from entering the surrounding environment.</li> <li>• Any fuel spillage of more than 200 litres must be reported to the Ministry of Mines and Energy.</li> <li>• Emergency response plans and spill contingency plans must be in place and include all fuels, chemicals or hazardous substances being handled.</li> </ul>
Fauna and Flora	<ul style="list-style-type: none"> <li>• Adapt the proposed development to the local environment - e.g. small adjustments to the site layout to avoid potential features such as existing vegetation.</li> <li>• Plant local indigenous species of flora as part of the landscaping as these species would require less maintenance than exotic species.</li> <li>• Prevent the introduction of potentially invasive alien ornamental plant species such as; Lantana, Opuntia, Prosopis, Tecoma, etc. as part of the landscaping as these species could infestate the area further over time.</li> </ul>

PLANNING AND DESIGN PHASE IMPACTS	
Impact	Mitigation Measures
Existing Service Infrastructure	<ul style="list-style-type: none"> <li>• Ensure professional design and construction of service infrastructure from qualified and registered engineers.</li> <li>• Ensure consultation and compliance with relevant authorities responsible for services, such as the Municipality, Erongo Red and Namwater.</li> <li>• Engage TransNamib as the national rail services operator in terms of plans for the provision of rail sidings and to ensure that there is no conflict with current or future plans of TransNamib.</li> <li>• Properly documenting all construction activities undertaken in the port through ‘as-built’ drawings and associated documents.</li> <li>• The contractor must determine exactly where services amenities and pipelines are situated before construction / maintenance commences (utility clearance e.g. ground penetrating radar surveys).</li> <li>• Designs and building materials should be as such to reduce dependency on artificial heating and cooling in order to limit the overall energy demand.</li> <li>• Water saving mechanisms should be incorporated within the proposed development’s design and plans in order to further reduce water demands.</li> <li>• Train employees on the importance of water and energy savings.</li> <li>• Adhere to water quality guidelines in terms of The Water Act, 1956.</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>• There should be no direct access to the freeway.</li> <li>• The development’s boundaries should be positioned at least 45m from the edge of the proclaimed national roads (both trunk and main roads).</li> <li>• Ensure that road junctions have good sightlines.</li> <li>• Limit the type of vehicles to use the internal roads e.g. heavy trucks.</li> <li>• Adhere to the speed limit.</li> <li>• Implement traffic control measures where necessary.</li> <li>• In cooperation with the local authority, erect clear signage regarding restricted areas and roads, access and exit points to the port, speed limits, traffic rules, rail level crossings, etc.</li> <li>• If any extraordinary traffic impacts are expected, traffic management should be performed in conjunction with the local traffic department.</li> </ul>

## 5.2 CONSTRUCTION PHASE

The management actions listed in **Table 5-2** apply during the construction phase. This table may be used as a guide when developing EMPs for other construction activities within this development area.

**Table 5-2:** Construction phase management actions

CONSTRUCTION PHASE IMPACTS	
Impact	Mitigation Measures
Fauna and flora	<ul style="list-style-type: none"> <li>• Prevent contractors from collecting wood, veld food, etc. during the construction phase.</li> <li>• Do not clear cut the entire development site, but rather keep the few individuals shrubs not directly affecting the development as part of the landscaping.</li> <li>• Transplant removed vegetation where possible, or plant new trees in lieu of those that have been removed.</li> </ul>
Pressure on existing infrastructure	<ul style="list-style-type: none"> <li>• Educate workforce on water saving measures.</li> <li>• Ensure all potable water points are metered and regularly read.</li> <li>• Ensure that the workforce is provided with temporary toilets during the construction phase.</li> </ul>
Surface and Ground Water	<ul style="list-style-type: none"> <li>• It is recommended that construction takes place outside of the rainy season in order to limit flooding on site and to limit the risk of ground and surface water pollution.</li> <li>• No dumping of waste products of any kind in or in close proximity to water bodies.</li> <li>• Heavy construction vehicles should be kept out of any surface water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks.</li> <li>• Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, they are appropriately dealt with.</li> <li>• Drip trays must be placed underneath construction vehicles when not in use to contain all oil and spillages that might be leaking from these vehicles.</li> <li>• Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> <li>• All materials on the construction site should be properly stored.</li> <li>• Disposal of waste from the site should be properly managed and taken to the Walvis Bay landfill site.</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
	<ul style="list-style-type: none"> <li>• Construction workers should be given ablution facilities at the construction site that are located at least 30 m away from any surface water and these should be regularly serviced.</li> <li>• Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment this should be done at an area properly suited and prepared to receive and contain contaminated waters.</li> </ul>
Health, Safety and Security	<ul style="list-style-type: none"> <li>• Construction personnel should not overnight at the site, except for security personnel.</li> <li>• Ensure that all construction personnel are properly trained depending on the nature of their work.</li> <li>• Provide for a first aid kit and properly trained personnel to apply first aid when necessary.</li> <li>• A wellness program should be initiated to raise awareness on health issues, especially the impact of sexually transmitted diseases and Covid-19.</li> <li>• Provide free condoms in the workplace throughout the construction phase.</li> <li>• Facilitate access to Antiretroviral medication for construction personnel.</li> <li>• Conform to the stipulated protocols related to Covid-19.</li> <li>• Restrict unauthorised access to the site and implement access control measures.</li> <li>• Clearly demarcate the construction site boundaries along with signage of no unauthorised access.</li> <li>• Clearly demarcate dangerous areas and no go areas on site.</li> <li>• Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures.</li> <li>• The contractor/s must comply with all applicable occupational health and safety requirements. The workforce should be provided with all necessary Personal Protective Equipment where appropriate.</li> </ul>
Air quality	<ul style="list-style-type: none"> <li>• All loose material should be kept on site for the shortest possible time.</li> <li>• It is recommended that dust suppressants such as Dustex be applied to all the construction clearing activities to minimise dust.</li> <li>• Construction vehicles to only use designated roads.</li> <li>• During high wind conditions the contractor must make the decision to cease works until the wind has calmed down.</li> <li>• Cover any stockpiles with plastic or any suitable material to minimise windblown dust.</li> </ul>

CONSTRUCTION PHASE IMPACTS	
Impact	Mitigation Measures
	<ul style="list-style-type: none"> <li>• Ensure construction vehicles are well maintained to prevent excessive emission of smoke.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• No amplified music should be allowed on site.</li> <li>• Inform neighbouring communities and companies of construction activities to commence and provide for continuous communication between them and contractor.</li> <li>• Limit construction times to acceptable daylight hours.</li> <li>• Install technology such as silencers on construction machinery.</li> <li>• Do not allow the use of horns/hooters as a general communication tool, but use it only where necessary as a safety measure.</li> <li>• Provide protective equipment such as ear muffs, masks and ear plugs to workers.</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>• Limit and control the number of access points to the site.</li> <li>• Ensure that road junctions have good sightlines.</li> <li>• Construction vehicles' need to be in a road worthy condition and maintained throughout the construction phase.</li> <li>• Transport the materials in the least amount of trips as possible.</li> <li>• Adhere to the speed limit.</li> <li>• Implement traffic control measures where necessary.</li> <li>• Minimise the movement of heavy vehicles during peak time.</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>• It is recommended that waste from the temporary toilets be disposed of at the Walvis Bay Wastewater Treatment Works, on a regular basis.</li> <li>• A sufficient number of waste bins should be placed around the site for the soft refuse.</li> <li>• A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site.</li> <li>• The waste containers should be able to be closed to prevent birds and other animals from scavenging.</li> <li>• Solid waste will be collected and disposed of at an appropriate local landfill in Walvis Bay, in consultation with the local authority.</li> </ul>

CONSTRUCTION PHASE IMPACTS	
Impact	Mitigation Measures
Hazardous Substances	<ul style="list-style-type: none"> <li>All chemicals and other hazardous substances must be stored and maintained in accordance with the Hazardous Substances Ordinance (No. 14 of 1974), with all relevant licences and permits to be obtained where applicable.</li> <li>Given the potential harm to human health during handling and use of any of hazardous substances it is essential that all staff be trained with regards to the proper handling of these substances as well as First Aid in the case of spillage or intoxication.</li> <li>Storage areas for all substances should be bunded and capable to hold 120% of the total volume of a given substance stored on site.</li> </ul>
Social	<ul style="list-style-type: none"> <li>Ensure locals enjoy priority in terms of job opportunities, to the extent possible, for skills that are available locally.</li> <li>Ensure local procurement where commodities are available locally.</li> </ul>

### 5.3 OPERATION AND MAINTENANCE PHASE

The management actions included in **Table 5-3** below apply during the operation and maintenance phase of this development.

**Table 5-3:** Operation and maintenance management actions

OPERATIONAL PHASE IMPACTS	
Impact	Mitigation Measures
Environmental monitoring and Evaluation	<ul style="list-style-type: none"> <li>An Environmental Practitioner should monitor the implementation of the EMP, and recommend any changes to this document when necessary.</li> <li>The Environmental Practitioner should inspect the site on a regular basis (preferably monthly or bi-monthly).</li> <li>Biannual reports are to be submitted to the Environmental Commissioner.</li> </ul>



OPERATIONAL PHASE IMPACTS	
Impact	Mitigation Measures
Visual and Sense of Place	<ul style="list-style-type: none"> <li>• It is recommended that more 'green' technologies be implemented within the architectural designs and building materials of the development where possible in order to minimise the visual prominence of such a development within the more natural surrounding landscape.</li> <li>• Natural colours and building materials such as wood and stone should be incorporated.</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Follow Labour Act Regulations - Noise Regulations (Regulation 197), and / or WHO guidelines on maximum noise levels (Guidelines for Community Noise, 1999), to prevent hearing impairment for workers on site and a nuisance for neighbouring properties.</li> <li>• Minimize or prevent noise producing activities and plan to restrict these to daytime as far as practically possible.</li> <li>• Limit construction work to daylight hours.</li> <li>• All machinery must be regularly serviced to ensure minimal noise production.</li> <li>• The use of low frequency white noise or flashing lights should be considered instead of audible high frequency warning signals for moving forklifts or trucks.</li> <li>• Erect temporary or permanent noise barriers / sound baffles, should the need arise.</li> <li>• Placement of noise producing equipment, e.g. compressors, in such a way that noise is directed away from receptors and / or are attenuated.</li> <li>• Where possible, use infrastructure to act as noise barriers to sensitive environments.</li> <li>• Hearing protectors as standard PPE for workers in situations with elevated noise levels.</li> </ul>
Waste management	<ul style="list-style-type: none"> <li>• The area will be kept free of waste, except in designated waste storage areas. Any wastes distributed by winds will be regularly cleaned up.</li> <li>• A sufficient number of waste bins should be placed around the site for the soft refuse.</li> <li>• A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site.</li> <li>• Solid waste will be collected and disposed of at an appropriate local land fill.</li> <li>• Categorise waste into various types such as hazardous, general and recyclable.</li> <li>• Hazardous waste to be disposed of at the appropriate facilities of the Walvis Bay Municipality.</li> <li>• Place priority on waste reduction, waste reuse and waste recycling, in that order.</li> </ul>

OPERATIONAL PHASE IMPACTS	
Impact	Mitigation Measures
Social	<ul style="list-style-type: none"> <li>• The proponent must employ local Namibians where possible.</li> <li>• If the skills exist locally, employees must first be sourced from the town, then the region and then nationally.</li> <li>• Deviations from this practice must be justified.</li> <li>• Local businesses and industries should be supported.</li> </ul>

#### 5.4 DECOMMISSIONING PHASE

It is not envisaged to decommission the development in the immediate future. However, should this be considered at the end of its useful life, the area has to be restored to *ante operam* conditions. It is recommended that a decommissioning plan should be developed within the first 24 months of operation of individual activities on the portions.

## Appendix A - Water Quality Guidelines