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Title	ENVIRONMENTAL & SOCIAL MANAGEMENT PLAN FOR THE PROPOSED NEW TOWNSHIP DEVELOPMENT ON PORTION 455 OF USAKOS SUD NO 41, ERONGO REGION, NAMIBIA.
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Contents

1 INTRODUCTION

This ESMP is submitted for the purposes of obtaining Environmental Clearance and will be a contract with the Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (MEFT: DEA). This implies that its contents will also be legally binding on all parties involved, including the Developer, Contractors and subcontractors.

These is also an operational phase, which will be responsibility of the Municipality of Usakos. For the planning and constructions phase, the Developer has the responsibility to include this documentation where applicable, develop it to educate and communicate it; to enforce it; to integrate it with the entire development.

The Usakos Municipality, in turn, since they will take over the services and enforce environmental and social order during operation, will have to include the management actions of the operational phase into their municipal system.

1.1 What is an Environmental and Social Management Plan (ESMP)?

An ESMP is a register of management actions and guidelines needed to ensure that undue or reasonably avoidable diverse impacts of the planning, construction, operation, and decommissioning of a project are prevented; and that the positive benefits of the project are enhanced. It assigns responsibilities and is used as a checklist to monitor compliance at the site.

1.2 What are the legal implications and my obligations under this Plan?

The implementation of an ESMP is required in terms of the Environmental Management Act of 2007. Therefore, the Developer and Municipality of Usakos are under a legal obligation to adhere to the recommendations in the Environmental and Social Management Plan.

1.3 Stages of the development covered

There are three stages of the development that are covered by this ESMP:

1. Planning and design stage of the overall development. This is the stage during which a multi-disciplinary team considers alternatives for services provision that will be feasible and sustainable.

2. Service corridors are determined and sites for reservoirs, substations, etc. are determined if studies indicate the existing municipal infrastructure to be insufficient. Guidelines are established for the architectural components and overall look and feel of the sites. This stage has advanced for the site, but is still to be completed. During this phase, all planning applications are submitted to the authorities for approval, followed by gazette the new township and surveying of the erven.

3. Construction stage of the services and individual properties which can be broken down into phases if opted by the Developer. Services are constructed by the developer according to the design, guidelines and phasing set out above. Individual properties are developed according to the guidelines set by the Developer.

4. Operational phase of the development. Each property owner is responsible for up keeping their property according to the legal requirements of the Municipality. The Municipality is responsible for the upkeep of the public grounds such as the parks, the streets, waste management, etc. Therefore, the Municipality should integrate this ESMP into their overall system.

This ESMP covers each of these stages.

2 RESPONSIBILITIES

The overall responsibility for the implementation of this ESMP during design and construction will lie with the Developer.

- Each contractor involved needs to adhere to the construction ESMP (Section 5) and is obliged to appoint a person on the construction supervision team to monitor the provision of the ESMP.

- Feedback is to be given to the developer during site meetings, and by means of monitoring reports. In order to ensure this is followed through, the developer needs to include Section 5 and requests for quotations/tender documents and eventual contracts of each contractor and ensure that they are fully aware of the environmental requirements and have budgeted to meet them.

- The operational phase becomes the responsibility of the Usakos Municipality. This will likely fall under the various divisions of the Municipality, including Community Development, but steered by health Services, although this is. It is advised that the HOA should have a designated portfolio for environmental management which will include vegetation management, monitoring of construction activities, groundwater management, waste management and all other responsibilities contained in Section 6 of this document.

2.1 PLANNING AND DESIGN PHASE

2.1.1 Responsibilities

This phase is the responsibility of the Developer, with delegated authorities to those appointed for various aspects of the development.

2.1.2 Goals

- To ensure that the design of all aspects of the facilities aim at environmental sustainability in the use of resources.

Table 2: Management requirements for the Planning and Design phase

ASPECT	MANAGEMENT REQUIRMENT
Briefs to design team (Architects, Engineers, agents etc.)	• Brief all involved in design to consider environmental sustainability aspects and to demonstrate hoe the design incorporates optimal resources use.
General Design	• Include the following principles in the design of bulk and internal services: o Prominent features such as sewerage pumps, sub stations, etc. where required should be treated to fit the natural environment. Such features should not be visible from roads or significant vantage points, or should be disguised where appropriate. o Facilities that could potentially produce an out dour should be sited upwind from residences, tourist facilities and other areas of social activity. o All polluting activities e.g. sewerage pump stations shall be bundled (separated) from underground water and surface water through using concrete, PVC and other materials as generally accepted in the industry.
Water saving in design	• Consider water saving strategies in the design of building, including prevention of pipe leaks, water saving taps and shower heads, etc.

Energy	• Consider where renewable energy may be promoted and installed in the development and promote such a strategy. The target for this development is able energy sources.
Land footprints	• Identify the best possible architectural design and footprint for each property (considering slopes, views, orientation, features on site, etc.). • The footprints should aim at maximizing functional outdoor space, solar radiation in the homes. • Consider affordable insulation techniques.
ASPECTS	**MANAGEMENT REQUIREMENT**
Changes to design or project description	The environmental clearance for this project is defined by the project description. Any changes to the design which trigger listed activities, e.g. design on greenfield, alternative bulk infrastructure, and water treatment would require an amendment to this EIA or an additional one. Identify such changes and ensure that the necessary clearances are obtained.
Clearance renewal	This environmental clearance needs to be renewed every three years. Note the date when renewal is requires and apply for renewal, noting any changes and challenges which need to be reflected in the renewal application.
Landscaping	Consider the introduction of trees, landscaping features such as benches and play equipment to the parks. Consider the goals of robustness, water wise, easy on maintenance, theft proof, conducive to safety of children.
Borrow pits	The sourcing of gravel and sand for construction particularly for roads can be a challenge environmentally. It is difficult to rehabilitate borrow pits and they are unsightly. The commercial main borrow pit at Usakos in the Usakos River is currently not run according to any environmental standards and this is non-compliant to legislation which requires an EIA and environmental management plan for such activities. This project will contribute significantly to the mining at the borrow pit. Therefore, the Developer in collaboration with the Usakos Municipality need to ensure environmental compliance for sourcing of materials at the borrow pit that is to be used for this project.
Storm water vs. climate change	Identify the risk to climate change and changes in precipitation patters, and include in the design. Use the latest rainfall data for calculation purposes, which simply accepting the existing municipal standard. Submit an explanation of this issue to the Usakos Municipality for consideration.
Existing Occupants (brick makers)	Prepare a communication and implementation plan for the current occupants of the site, including: • Consult with the occupants about their concerns about the Usakos Housing project. This should happen as soon as possible. • Identify criteria with them for alternative sites that will be economically viable, e.g. accessibility to markets, security, affordability, etc. • Identify potential suitable sites and present these to the recipients. Agree with the recipients on the best site. • Prepare an agreement with the occupants and prepare the land for lease to them. • Project management as needed. • Ensure the goal that occupants will not be worse off on the new site compared to the existing site in terms of access to markets, affordability, size, etc. **Whereas the other tasks are the responsibility of the Developer, this task is to be performed and completed by the Usakos Municipality.**
TransNamib requirements	• Access to the TransNamib rail reserve to be avoided by means of a jakkalsproof fence on the extension boundary at public open spaces and on property boundaries along the reserve to prevent people from crossing the railway line. To be to the satisfaction of the TransNamib. • There should be no increase in the storm water runoff towards the railway reserve. • No new or temporary level crossings will be allowed.

	• Permission for services crossing the railway reserve or track should be sought timeously from TransNamib. • Contact Mr. Wessel Swanepoel. Wessel.Swanepoel@TransNamib.com.na

2.2 CONSTRUCTION TENDER PREPARATION PHASES

All those actions required during the tender preparation phase are included below. Environmental management requirement needs to be made legal in all agreements with contractors. Because the project is however still in its planning phase, construction still far ahead and this list therefore indicative, these requirements need to be revised closer to actual construction date.

Table 3: Construction tender preparation phase management requirements

ASPECTS	MANAGEMENT REQUIREMENTS
EMP implementation	Relevant sections of this ESMP should be included in the tender document for all development so that tenderers can make provision for implementation of the ESMP.
Responsibilities	• Depending on the structure of the development company, contractors, etc. design a structure for the responsibilities of this ESMP. The ESMP should be structured around the ER (Employers Representative) and an ECO (Environmental Control Officer) who take Responsibility for implementing this ESMP.
Communication	• Compile a stakeholders list including neighbors, Municipality of Usakos, TransNamib, The Usakos leaders, the current occupants etc. (see the stakeholders list for this project). Communicate to them as appropriate, e.g. when construction will commence.
Financial provision	• Financial provision for compilation of a Waste Management Plan should be included as a cost item within tenders concerning the construction and/or maintenance of services infrastructure. • Financial provision for hauling to borrow pits further away and topsoil management. Sand harvesting is only permissible from operations that have clearance from the Environmental Commissioner and who have a permit from the Department of Water Affairs, a legitimate source for sand needs to be identified during tendering and the costs duly accounted for. • Financial provision for the facilitation of an induction programme for both senior, casual construction personnel as well as subcontractors and associated personnel should be included as a cost item within tenders concerning the construction and/or maintenance of services infrastructure and housing. • Financial provision for water and power conservation. • Financial provision for rehabilitation and clean-up efforts as may be appropriate. • Financial provision for the beatification of the parks and sidewalk.
Recruitment	• Provisions designed to maximize the use of local labour should be included within tenders concerning the construction and/or maintenance of services infrastructure and housing. • A provision stating that all unskilled labour should be sourced from local communities (Usakos) should be included within tenders.

	• Provision promoting gender equality pertaining to recruitment should be included within tenders concerning the construction and/or maintenance of services infrastructure and housing.

3 CONSTRUCTION MITIGATION DETAIL

The following table provides a large-scale overview of all the major environmental management themes pertaining to both general and site-specific construction mitigation details. This table serves to act as quick references, for the detailed mitigation details that follow below, for the implementation of the construction component of this ESMP.

The details provided here for the construction phase need to be revised before the construction phase is to commence.

Table 4: Generic and site-specific environmental management actions for the construction phase

THEME	OBJECTIVE	SECTION
Waste management	Avoid and where not possible minimize all pollution associated with construction	Section A
Borrow pits	Ensure topsoil protection and post construction rehabilitation	Section B
Health and safety	Safeguard health and safety of labourers and general public	Section C
Dust and noise	Avoid and where not possible minimize dust and noise associated with construction	Section D
Environmental training and awareness	Awareness creation regarding the provisions of the EMP as well as importance of safeguarding environmental resources.	Section E
Environmental conservation	Minimize construction activity footprint and safeguard biodiversity in ecologically sensitive areas.	Section F
Employment/ Recruitment	Minimize negative conflict through legal and fair recruitment practices.	Section G
Stakeholder communication	Provide a platform for stakeholders to raise grievances and receive feedback and hence minimize negative conflict	Section H
Socio-economic and Miscellaneous	Ensure due consideration is given to matters regarding the cultural and general wellbeing of the affected community.	Section I

3.1 SECTION A: WASTE MANAGEMENT

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Waste Management Plan	The Contractor should compile a Waste Management Plan which should address as a minimum the mitigation measures included below.
Hazardous waste	• All heavy construction vehicles and equipment on site should be provided with a drip tray. • Drip trays are to be transported with vehicles wherever they go. • Drip trays should be cleaned daily and spillage handled, stored and disposed of as hazardous waste. • All heavy construction vehicles should be maintained regularly to prevent oil leakages. • Maintenance and washing of construction vehicles should be take place only at a designed workshop area. • The workshop area should be lined with concrete. • The workshop should have an all-water separator for collect run-off from washing. • Spilled concrete (wet or dry) should be treated as hazardous waste and disposed of by the end of each day in the appropriate hazardous waste containers. • All hazardous substances (e.g. fuel etc.) or chemicals should be stored in a specific location on an impermeable surface which is bunded.

Sewage and grey water	• Do not allow the sewage (black water) to be discharged directly onto open soil.
	• All sewage must be removed regularly and disposed of at a recognized (municipal) sewage treatment facility, unless sewerage lines are already in place, on which latrines can be fixed for the construction period.
	• The water collected from wash basins and showers (grey water), should not be left standing for long periods of time as this promotes mosquito breeding as well as parasite and bacterial proliferation. Grey water should be recycled:
	  ○ Used for dust suppression;
	  ○ Used to water a vegetable garden, or to support a small nursery;
	  ○ Used to clean equipment.
	• If grey water will be recycled it should be removed along with the black water on a regular basis.
	• The workforce should be trained not to dispose of any foreign objects into the municipal sewage system, which causes sewage overflows, blockages, etc.

General waste	• The construction site should be kept tidy at all times. All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. • No waste may be buried or burned. • Waste containers (bins) should be emptied regularly and removed from site to a recognized (municipal) waste disposal site. All recyclable waste needs to be taken to the nearest recycling depot. • A sufficient number of separate waste containers (bins) for hazardous and domestic/ general waste must be provided on site. These should be clearly marked as such. • No waste may remain on site after the completion of the project.
	SPECIFIC MITIGATION DETAILS
	• The general waste produced on site should be disposed of at the Usakos Municipal Waste Disposal Site. • Hazardous Waste should be disposed of at the Walvis Bay Hazardous Waste Disposal Site. • Hydrocarbons should be disposed of at the Walvis Bay Hazardous Waste Disposal Site or collected by an oil recycling company.

3.2 SECTION B: BORROW PITS

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
	Not applicable-
	SPECIFIC MITIGATION MEASURES
	• It is assumed that the Contractor/s will obtain borrow material for all requirements of the project, i.e. road base layers, foundations, etc. from commercial sources • Contractors will only be permitted to obtain such material from operators who have an environmental clearance in place, meaning that their sites are managed in an environmentally sensitive manner. • The Developer shall work out a strategy for storing topsoil and/or spoil that is removed in areas to be cleared, to be used later for the landscaping of the terrain, i.e. especially the parks. • The Developer shall liaise as early as possible with the Usakos Municipality regarding the borrow pit to ensure that environmental clearance is in place for suitable borrow pit.

3.3 SECTION C: HEALTH AND SAFTEY

3.3.1 Covid19 INFECTION PREVENTION AND CONTROL MEASURES

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus i.e. severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. These droplets are too heavy to hang in the air, and quickly fall on floors or surfaces. You can be infected by breathing in the virus if you are within close proximity of someone who has COVID-19, or by touching a contaminated surface and then your eyes, nose or mouth.

Employers must implement a code of practice to manage and prevent the spread of COVID-19. This is to ensure that all employees returning to work and any other persons at the construction site, are protected from transmission of the coronavirus at the workplace, whilst providing guidance to all stakeholders regarding their roles and responsibilities in the management of the virus. The regulations require property developers to supply protective equipment, screen all people entering the construction site, provide standby quarantine facilities before transferring infected persons to the state quarantine centres, identify those with pre-existing conditions and carry out routine disinfection.

They also have to keep construction workers between one and two metres apart. Failure to enforce the rules would constitute a violation of the nationwide Covid19 regulations as stipulated by the Head of State and the relevant arms of government to curb the spread of the corona virus.

After arrival of employees at the construction site, employers should comply with the following:

- Infection prevention and control measures should be applied to all modes of transport for employees, screening areas and active work areas.

3.3.2 Education of workers should be given on:

Maintaining physical distancing. Ensure employees and staff keep a distance of at least 1-2 m when in contact with other people; where this is not possible, issue appropriate facemasks, as per the Guidance on PPE for COVID-19.

- Regular washing of hands with soap.
- Regular sanitising of hands with alcohol-based hand rub (ABHR) or other appropriate sanitisers.
- Avoid touching your face areas (mouth, eyes and nose).
- Avoid physical hand contact such as handshakes.
- Avoid using other people's personal belongings such as stationery, cell phones and sharing food etc.
- When coughing or sneezing do not use your hands, rather use a tissue/toilet paper or the inside of your elbow.
- Use disposable tissues rather than a handkerchief; immediately dispose of these tissues in a closed bin and wash or sanitise your hands thereafter.
- Avoid big crowds and travelling.
- Avoid touching objects before sanitising, like steering wheels on machinery, toilet seats, tables and chairs.
- Coach and teach family members.
- Wearing and handling of appropriate PPE.

a) Posters on Infection Prevention to be visible at designated areas of the construction sites (See **Figure 1** for a typical Covid19 information poster).

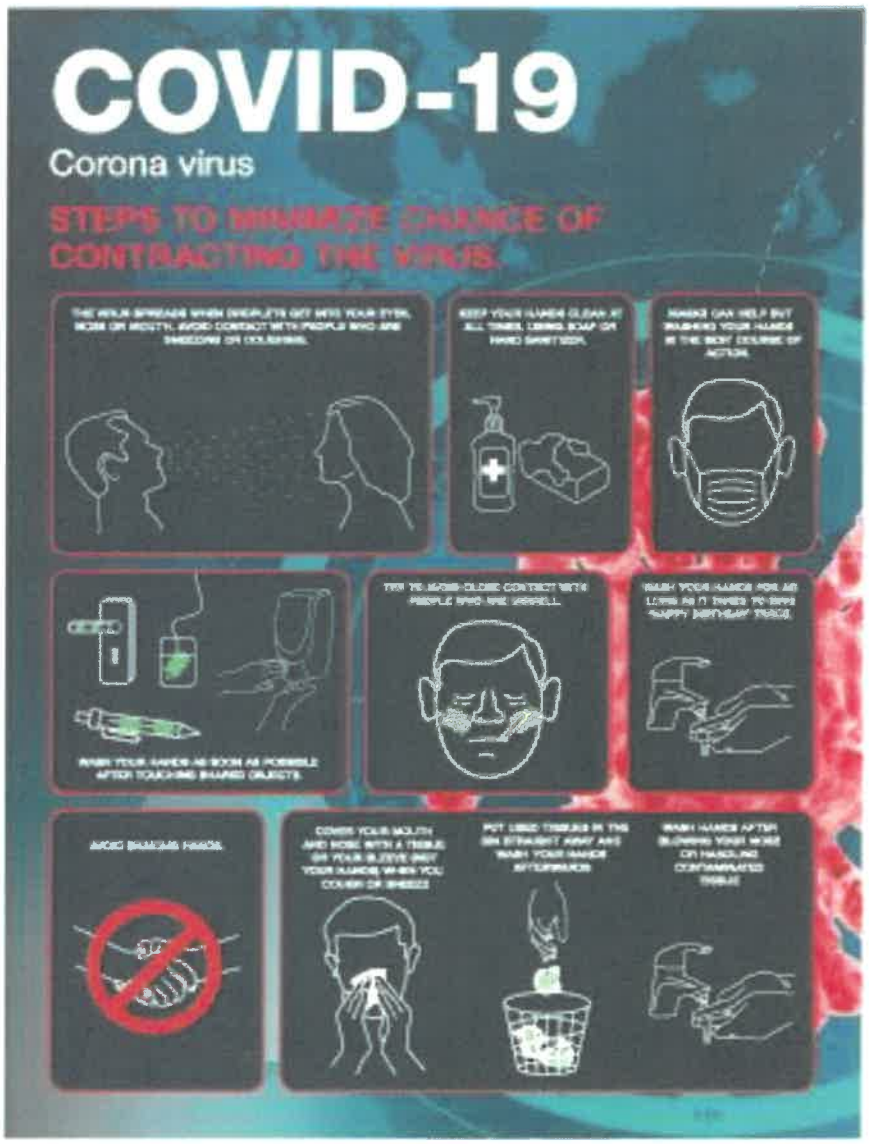

Figure 1: Typical COVID-19 information poster to be placed at designated areas at the construction site.

b) Sanitisers (as per World Health Organisation guidelines) should be made available at the entrance and exit points of all screening facilities, security entrances and all entrances and exits at the common areas at the construction camp, and at the starting points and end points of all places where close contact among workers is likely to occur, including in underground working places.

c) Sanitisers (as per World Health Organisation guidelines) should be available in each consultation room and testing areas at the screening centre, and sanitisation should take place before and after every consultation.

d) PPE is required for all staff, and PPE management programmes should be in place to ensure that PPE is worn correctly (including fit testing), replaced as necessary, stored correctly and disposed of safely.

e) Employees not able to socially distance by 1 m should be provided with PPE as per the Guidance on PPE for COVID-19.

f) Re-enforce compliance with the taking of chronic medication.

3.3.3 Screening and testing at the designated areas

Employers should comply with the following:

a) Where there is company accommodation, initial pre-screening should be done at the residences, before getting to the work site. This is to isolate and quarantine any possible cases and suspects.

b) At work, pre-screening of workers should be done before entering the facility (at the gate) either by nursing or security staff as per agreed-on protocol. This should include a temperature check.

c) Employees with elevated temperatures should be referred directly to the isolation area for assessment by a Registered Nurse.

d) Employees who do not have elevated temperatures should be referred to the site office for COVID-19 Risk Assessment and to complete a return to work medical (**Annexure B**).

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Health and Safety	All contractors shall adhere to the Labour Act in terms of Health and Safety. Strict penalties, including dismissal should be in place for non-compliance of the Labour Act and the Regulations pertaining to Health and Safety.
HIV/AIDS and TB training	The Contractor should approach the Ministry of Health and Social Services to coopt a health officer to facilitate HIV/AIDS and TB education programmes periodically on site during the construction phase.
Road Safety	• Demarcate roads and accesses clearly. • Off-road driving should not be allowed. • All vehicles that transport materials to and from the site must be road worthy. • Drivers that transport materials should have a valid driver's license and should adhere to all traffic rules (The Road Traffic and Transport Act, 1999). Note specifically also regulations pertaining to the transport of workers e.g. no workers to be transported on the back of an open truck. • Loads upon vehicles should be properly secured to avoid items falling off the vehicles. • All drivers are to be free from the influence of alcohol.

Safety Around Excavated and Work Areas	• Excavations should be left open for an absolute minimum time.
	• Excavate short lengths of trenches and box areas for services or foundations in such a way that the trench will not be left unattended for more than 24 hours.
	• Demarcate the following areas with danger tape on a daily basis:
	  ○ Construction sites;
	  ○ All excavation works;
	  ○ Soil and other building material stockpiles; and
	  ○ Temporary waste Stockpiles
	• Provide additional warning signage in areas of movement and in "no personnel" areas where workers are not active.
	• All building materials and equipment are to be stored only within set out and demarcated work areas.
	• Only construction personnel will be allowed within these work areas.

	• Comply with all mitigation measures laid out in **Section A** (Waste Management mitigation details)
Ablutions	• Separate ablutions (toilet, hand basin and soap) should be available for men and women and should clearly be indicated as such. • Portable toilets (i.e. easily transportable) should be available at every construction site: o 1 toilet for every 25 females. o 1 toilet for every 50 males. (this applies to the construction of infrastructure, and houses). Sewage waste needs to be removed on a regular basis to an approved (municipal) sewage disposal site. Workers responsible for cleaning the toilets should be provided with latex gloves and masks.
Open fires	• No open fires may be made anywhere on site. • The Contractors must supply wood (or other fuel) for cooking or heating purposes.
General	• Dust protection masks should be provided to workers if they complain about dust. • Potable water should be provided to workers. • No person should be allowed to smoke close to fuel storage facilities or portable toilets (if toilets are chemical toilets- the chemicals are flammable) • No workers should be allowed to drink alcohol during work hours. • No workers should be allowed on site if under the influence of alcohol.
	SPECIFIC MITIGATION DETAILS
	• Liquid waste from sewerage is to be disposed daily at the Usakos Sewerage Treatment Facility until such time as sewerage lines are functional on site and can be used to receive sewerage. • The workforce should not be accommodated on site.

3.4 SECTION D: DUST AND NOISE

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Dust	Dust suppression measures should be made applicable where there is a risk to nearby communities and the workforce.
Noise	Work hours should be restricted to between 08h00 and 17h00
	SPECIFIC MITIGATION DETAILS
Dust	Place all the stockpiles, screening activities and other dust producing activities downwind from sensitive receptors including the already built residences, businesses, etc. In cases where this is not possible, apply semi-purified or grey water to dust generating surfaces in windy conditions.

3.5 SECTION E: ENVIRONMENTAL AND SOCIAL TRAINING AND AWARENESS

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Environmental Induction (Training)	All construction workers are to undergo environmental induction (training) which should include as a minimum the following: • Explanation of the importance of complying with the ESMP. • Discussion of the potential environmental and social impacts of construction activities. • Employees' roles and responsibilities, including emergency preparedness. • Explanation of the mitigation measures that must be implemented when particular work group carry out their respective activities. • Explanation of the specific mitigation measures within this EMP especially unfamiliar provisions. • This training must be undergone by all new workers before they may commence with work.

	• A signed copy is to be kept for every worker that this course was attended. Workers need to be made aware of disciplinary actions and/or penal measures and procedures in case of non-conformance.

3.6 SECTION F: ENVIRONMENTAL CONSERVATION

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Materials camp and lay-down areas	In the case of construction of services, suitable locations for materials camps and lay-down areas should be identified with the assistance of the Developer and ER and the following should be considered in selecting these sites. Avoid sensitive areas (e.g. the hilly rocky areas on site). In the case of individual homes being constructed laydown areas should be within the erf boundary and shall be neatly stowed.
	SPECIFIC MITIGATION MEASURES
Conservation areas	• The rocky outcrops on the site should be demarcated and kept free of movement, waste, tracks, etc. They should be no-go areas.
Water conservation and energy efficiency	• The contractors should submit plans of how they are to conserve water and energy by using available technologies, training and awareness raising, management, demand management, penalty systems, etc. which are appropriate for this project. Water at the housing development must meet the water quality guidelines (**See Annexure A**)
Construction water	• Construction water for pipe trenches and lower subgrade works can be sourced from the Usakos semi- purified water system. All water used for concrete works, road surfacing, and structural road layers etc. will be of similar quality as domestic water.

3.7 SECTION G: EMPLOYMENT/RECRUITMENT

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Legislation	Adhere to the legal provision in the Labour Act (see **Recruitment section** below contains a list of legal requirements that need to be adhered to during the project planning, construction and operation. These requirements are the environmentally focused ones and do not include all legal requirements pertaining to the project
Recruitment	The Contractor should compile a formal recruitment process including the following provisions as a minimum: • Recruitment should not take place at the construction site. • Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment to labour outside the agreed upon process. • Contractors should give preference in terms of recruitment of subcontractors and individual labourers to those from the project area (Usakos). • Clearly explain to all job-seekers the terms and conditions of their respective employment contract (e.g. period of employment etc.) – make use of interpreters when necessary.

3.8 SECTION H: STAKEHOLDER COMMUNICATION

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Communication plan	The Contractor should draft a Communication Plan, which should outline a minimum the following: • How stakeholders, who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records; • How these stakeholders will be communicated with on an ongoing basis; • Make provision for grievance mechanisms – i.e. how concerns can/will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the even feedback is deemed unsatisfactory.
General communication matters	• The appointed Contractor shall appoint a person (the environmental control officer, ECO) from the construction team to take responsibility for the implementation for all provision of this ESMP. • The Contractor shall at every site meeting report on the status of the implementation of all provisions of the ESMP. • The Contractor should implement the environmental awareness training as stipulated in **Section E** • The Contractor must list the stakeholders of the project and their contact details with whom ongoing communication would be required for duration of the contract. This list, together with the Communication Plan must be agreed upon and given to the before construction commences. • The Communication Plan, once agreed upon by the Developer, shall be binding. • All communication with the stakeholders must take place through the ECO. • A copy of the ESMP must be available at the site office and should be accessible to all stakeholders. • Key representatives from the above-mentioned list need to be invited to attend monthly site meetings to raise any concerns and issues regarding project progress. • The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences, • A procedure should be put in place to ensure that concerns raised have been followed-up and addressed.
	SPECIFIC MITIGATION DETAILS
	• The stakeholders list shall at least include the current occupants of the land (if applicable), Municipality of Usakos, TransNamib, the leaders/ representatives of Usakos Bo Dorp.

3.9 SECTION I: SOCIO-ECONOMIC AND MISCELLANEOUS

ASPECT	MITIGATION MEASURE
	GENERIC MITIGATION DETAILS
Archaeology	• Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, a "chance find" procedure should be applied in the order they appear below: o If operating machinery or equipment stop work; o Demarcate the site with danger type; o Determine GPS position if possible; o Report findings to foreman; o Report findings, site location and actions taken to superintendent; o Cease any work in immediate vicinity;

	○ Visit site and determine whether work can proceed without damage to findings; ○ Determine and demarcate exclusion boundary; ○ Site location and details to be added to the project's Geographic Information System (GIS) for field confirmation by archaeologist; ○ Inspect site and confirm addition to project GIS; ○ Advise the National Heritage Council (NHC) and request written permission to remove findings from work area; and ○ Recovery, packaging and labeling of findings for transfer to National Museum. • Should human remains be found, the following actions will be required: ○ Apply the chance find procedures as described above; ○ Schedule a field inspection with an archaeologist to confirm that remains are human; ○ Advise and liaise with the NHC and Police; and ○ Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.
SPECIFIC MITIGATION DETAILS	
Workforce accommodation	• No workers are to be accommodated on site • Security guards may be accommodated for large infrastructure contracts upon agreement and arrangement of accommodation, food provision, and rules for restricted access to the terrain.
Temporary cooking	• Temporary cooking facilities and other hawking opportunities exploited by the community needs to be orderly dealt with in consultation with the Usakos Municipality. Regulations in this regard need to be adhered to. Each trader needs to register with the Municipality and show proof of such as well as that the conditions set are being adhered to. Even though this is the responsibility of the Municipality when the hawking takes place outside the site, the contractor should cooperate with the Municipality to ensure good order in this regard.
Fire Wood	• No fire wood to be sourced by the Contractor or his employees from or the area surrounding the site.

4 OPERATION AND MAINTENANCE PHASE

The operation and maintenance phase will be the responsibility of the Usakos Municipality.

This section of the ESMP needs to be revised and updated when the sale of erven is being prepared.

Table 5: Operation and maintenance phase mitigation measures.

ASPECT	MITIGATION MEASURE
ESMP Implementation	If any construction is to be conducted as part of maintenance works for the services infrastructure within the project area please refer to the construction mitigation measures of this ESMP (Section **5**).
Post-construction environmental training and awareness	All contractors appointed for maintenance work on the respective services infrastructure must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.
Monitoring	The applicable section of the Usakos Municipality should incorporate this new township into the Environmental Management Plan for Usakos and ensure that monitoring, maintenance and other environmental provisions listed there are carried out.
Waste and Littering	The area should be incorporated into the Usakos Municipality's overall waste management system. The provisions in the Usakos Environmental Management Plan for improving waste systems should also be applied here.
Water management and conservation	The area should be incorporated into Usakos overall strategy for water conservation and demand management as recommended in the Usakos Environmental Plan.
Energy efficiency	The area should be incorporated into the Usakos strategy for energy conservation and demand management as recommended in the Usakos Environmental Management Plan.
Green corridors	The facilities at the parks and the street trees are to be maintained regularly. Replace and prune plants, replace broken equipment, etc.
Sewerage	The sewerage system should be incorporated into the overall management system of the Usakos Municipality and maintained as such to prevent overflows, leaks and breakdowns.

ANNEXURE A- WATER QUALITY GUIDELINES

THE WATER ACT, 1956 (ACT 54 OF 1956) AND ITS REQUIREMENTS IN TERMS OF WATER SUPPLIES FOR DRINKING WATER AND FOR WASTE

WATER TREATMENT AND DISCHARGE INTO THE ENVIRONMENT

1. INTRODUCTION

The provisions of the Water Act are intended, amongst other things, to promote the maximum beneficial use of the country's water supplies and to safeguard water supplies from avoidable pollution.

The drinking water guidelines are not standards as no publication in the Government Gazette of Namibia exists to that effect. However the Cabinet of the Transitional Government for National Unity adopted the existing South African Guidelines (461/85) and the guidelines took effect from 1April 1988 under the signature of the then Secretary for Water Affairs.

The sections of the Water Act that relate to the discharge of industrial effluents are:
- Section 21(1) which states that

-- The purification of waste water shall form an integral part of water usage and

-- that purified effluents shall comply with the General Standard Quality restrictions as laid out in Government Gazette R553 of 5 April 1962 and

- Section 21(2) which further stipulate that this purified effluent be returned as close as possible to the point of abstraction of the original water.

Where a local authority has undertaken the duty of disposing of all effluents from an industrial process the provisions of Section 21(1) and 21(2) apply to the local authority and not the producer of the effluents. If there is difficulty in complying with these provisions then the applicant may apply for an exemption from the conditions in terms of Section 21(5) and 22(2) of the Water Act. The Permanent Secretary after consultation with the Minister may grant the issuance of a Waste Water Discharge Permit under Sections 21(5) and 22(2) subject to such conditions as he may deem fit to impose.

After independence, the Government of the Republic of Namibia decided that for the interim the existing guidelines will continue to be valid and to remain in use until a proper study has been conducted and new standards have been formulated (Article 140 of Act 1 of 1990).

2. GUIDELINES FOR THE EVALUATION OF DRINKING-WATER QUALITY FOR HUMAN CONSUMPTION WITH REGARD TO CHEMICAL, PHYSICAL AND BACTERIOLOGICAL QUALITY

Water supplied for human consumption must comply with the officially approved guidelines for drinking-water quality. For practical reasons the approved guidelines have been divided into three basic groups of determinants, namely:

- Determinants with aesthetic / physical implications: TABLE 1.
- Inorganic determinants: TABLE 2.
- Bacteriological determinants: TABLE 3.

2.1 CLASSIFICATION OF WATER QUALITY

The concentration of and limits for the aesthetic, physical and inorganic determinants define the group into which water will be classified. See TABLES 1 and 2 for these limits. The water quality has been grouped into 4 quality classes:

2.1 Group A: Water with an excellent quality
2.2 Group B: Water with acceptable quality

2.3 Group C: Water with low health risk

Group D: Water with a high health risk, or water unsuitable for human consumption.

Water should ideally be of excellent quality (Group A) or acceptable quality (Group B), however in practice many of the determinants may fall outside the limits for these groups.

If water is classified as having a low health risk (Group C), attention should be given to this problem, although the situation is often not critical as yet.

If water is classified as having a higher health risk (Group D), urgent and immediate attention should be given to this matter.

Since the limits are defined on the basis of average lifelong consumption, short-term exposure to determinants exceeding their limits is not necessarily critical, but in the case of toxic substances, such as cyanide, remedial measures should immediately be taken.

The overall quality group, into which water is classified, is determined by the determinant that complies the least with the guidelines for the quality of drinking water.

TABLE 1: DETERMINANTS WITH AESTHETIC / PHYSICAL IMPLICATIONS

DETERMINANTS	UNITS*	LIMITS FOR GROUPS			
		A	B	C	D**
Colour	mg/l Pt***	20			
Conductivity	mS/m !at 25 °C	150	300	400	400
Total hardness	mg/l $CaCO_3$	300	650	1300	1300
Turbidity	N.T.U****	1	5	10	10
Chloride	mg/l Cl	250	600	1200	1200
Chlorine (free)	mg/l Cl	0,1- 5,0	0,1 – 5,0	0,1 – 5,0	5,0
Fluoride	mg/l F	1,5	2,0	3,0	3,0
Sulphate	mg/l SO_4	200	600	1200	1200
Copper	µg/l Cu	500	1000	2000	2000
Nitrate	mg/l N	10	20	40	40
Hydrogen Sulphide	µg/l H_2S	100	300	600	600
Iron	µg/l Fe	100	1000	2000	2000
Manganese	µg/l Mn	50	1000	2000	2000
Zink	mg/l Zn	1	5	10	10
pH****	pH-unit	6,0 – 9,0	5,5 – 9,5	4,0 – 11,0	4,0 – 11,0

* In this and all following tables "l" (lower case L in ARIAL) is used to denote dm^3 or litre

2.3 All values greater than the figure indicated.

2.2 Pt = Platinum Units

3.0 Nephelometric Turbidity Units

***** The pH limits of each group exclude the limits of the previous group

TABLE 2: INORGANIC DETERMINANTS

DETERMINANTS	UNITS	LIMITS FOR GROUPS			
		A	B	C	D*
Aluminium	µg/l Al	150	500	1000	1000
Ammonia	mg/l N	1	2	4	4
Antimonia	µg/l Sb	50	100	200	200
Arsenic	µg/l As	100	300	600	600
Barium	µg/l Ba	500	1000	2000	2000
Beryllium	µg/l Be	2	5	10	10
Bismuth	µg/l Bi	250	500	1000	1000
Boron	µg/l B	500	2000	4000	4000
Bromine	µg/l Br	1000	3000	6000	6000
Cadmium	µg/l Cd	10	20	40	40
Calcium	mg/l Ca	150	200	400	400
Calcium	mg/l $CaCO_3$	375	500	1000	1000
Cerium	µg/l Ce	1000	2000	4000	4000
Chromium	µg/l Cr	100	200	400	400
Cobalt	µg/l Co	250	500	1000	1000
Cyanide (free)	µg/l CN	200	300	600	600
Gold	µg/l Au	2	5	10	10
Iodine	µg/l I	500	1000	2000	2000
Lead	µg/l Pb	50	100	200	200
Lithium	µg/l Li	2500	5000	10000	10000
Magnesium	mg/l Mg	70	100	200	200
Magnesium	mg/l $CaCO_3$	290	420	840	840
Mercury	µg/l Hg	5	10	20	20
Molybdenum	µg/l Mo	50	100	200	200
Nickel	µg/l Ni	250	500	1000	1000
Phosphate	mg/l P	1	See note below	See note below	See note below
Potassium	mg/l K	200	400	800	800
Selenium	µg/l Se	20	50	100	100
Silver	µg/l Ag	20	50	100	100
Sodium	mg/l Na	100	400	800	800
Tellurium	µg/l Te	2	5	10	10
Thallium	µg/l Tl	5	10	20	20
Tin	µg/l Sn	100	200	400	400

Titanium	µg/l Ti	100	500	1000	1000
Tungsten	µg/l W	100	500	1000	1000
Uranium	µg/l U	1000	4000	8000	8000
Vanadium	µg/l V	250	500	1000	1000

All values greater than the figure indicated.

Note FOR Table 2 on phosphate: Phospates are not toxic and essential for all life-forms. Natural water will, however, seldom contain phosphate; it is generally seen as an indicator of pollution and is usually accompanied by other pollutants. Wherever drinking water is combined with or consists wholly of reclaimed or recycled water, it may be expected to contain phosphate. The general guideline for a concentration level to be aimed at is 1 mg/l as P. But in many cases this may be difficult to achieve technically. For this reason the Department will allow a phosphate concentration level of up to 5 mg/l as P in water intended for human consumption. Please refer also to the "Note on Phosphate" under Section 3: General Standards for Waste/Effluent.

2.2 BACTERIOLOGICAL DETERMINANTS

The bacteriological quality of drinking water is also divided into four groups, namely:

- Group A: Water which is bacteriological very safe;

Group B: Water which is bacteriological still suitable for human consumption;

Group C: Water which is bacteriological risk for human consumption, which requires immediate action for rectification;

Group D: Water, which is bacteriological unsuitable for human consumption.

TABLE 3: BACTERIOLOGICAL DETERMINANTS

DETERMINANTS	LIMITS FOR GROUPS			
	A**	B**	C	D*
Standard plate counts per 1 ml	100	1000	10000	10000
Total coliform counts per 100 ml	0	10	100	100
Faecal coliform counts per 100 ml	0	5	50	50
E. coli counts per 100 ml	0	0	10	10

All values greater than the figure indicated.

** In 95% of the samples.

NB If the guidelines in group A are exceeded, a follow-up sample should be analysed as soon as possible.

2.3 FREQUENCY FOR BACTERIOLOGICAL ANALYSIS OF DRINKING-WATER SUPPLIES

The recommended frequency for bacteriological analysis of drinking water is given in Table 4.

TABLE 4: FREQUENCY FOR BACTERIOLOGICAL ANALYSIS

POPULATION SERVED	MINIMUM FREQUENCY OF

	SAMPLING
More than 100 000	Twice a week
50 000 – 100 000	Once a week
10 000 – 50 000	Once a month
Minimum analysis	Once every three months

3 GENERAL STANDARDS FOR WASTE / EFFLUENT WATER DISCHARGE INTO THE ENVIRONMENT

All applications in terms of Section 21(5) and 22(2), for compliance with the requirements of Section 21(1) and 21(2) of the Water Act (Act 54 of 1956) that purified water shall comply with the General Standard as laid out in Government Gazette Regulation R553 of 5 April 1962.

TABLE 5 GENERAL STANDARDS FOR ARTICLE 21 PERMITS (EFFLUENTS)

DETERMINANTS	MAXIMUM ALLOWABLE LEVELS
Arsenic	0,5 mg/l as As
Biological Oxygen Demand (BOD)	no value given
Boron	1,0 mg/l as B
Chemical Oxygen Demand (COD)	75 mg / l as O
Chlorine, residual	0,1 mg/l as Cl_2
Chromium, hexavalent	50 Ng/l as Cr(VI)
Chromium, total	500 Ng/l as Cr
Copper	1,0 mg/l as Cu
Cyanide	500 Ng/l as CN
Oxygen, Dissolved (DO)	at least 75% saturation**
Detergents, Surfactants, Tensides	0,5 mg/l as MBAS – See also Note 2
Fats, Oil & Grease (FOG)	2,5 mg/l (!gravimetric method)
Fluoride	1,0 mg/l as F
Free & Saline Ammonia	10 mg/l as N
Lead	1,0 mg/l as Pb
Oxygen, Absorbed (OA)	10 mg / l as O*
pH	5,5 – 9,5
Phenolic Compounds	100 Ng/l as phenol
Phosphate	1,0 mg/l as P - See also Note 1
Sodium	not more than 90 mg/l Na more than influent
Sulphide	1,0 mg/l as S
Temperature	35°C
Total Dissolved Solids (TDS)	not more than 500 mg /l more than influent
Total Suspended Solids (TSS)	25 mg/l
Typical faecal Coli.	no typical coli should be counted per 100 ml
Zinc	5,0 mg/l as Zn

* Also known as Permanganate Value (or PV).

** In Windhoek the saturation level is at approx. 9 mg/l O_2.

Note (1) on phosphate: Phospates are not toxic and essential for all life forms. Natural water will seldom contain phosphate; it is generally seen as an indicator of pollution and is usually accompanied by other pollutants. Wherever drinking water is combined with or consists wholly of reclaimed or recycled water, it may be expected to contain phosphate. There is no general guideline for phosphate contained in the Regulation 553. But generally it is assumed that eutrophication or algal bloom in dams is promoted by nutrient concentrations as low as 0,01 mg/l as P; generally a phosphate concentration limit for dams of 0,1 mg/l is recommended. All water that is consumed and subsequently discharged, will eventually end up in rivers, dams or

groundwater – that is why for potable water, a concentration level of 1 mg/l as P is aimed at.

But, again, in many cases of waste and effluent treatment, this may be difficult to achieve technically, or the required waste and effluent treatment infrastructure is not available; as the required infrastructure is sophisticated and expensive. The current situation calls for a compromise and for this reason, this Department will judge each application individually on its merits and allow, in certain cases, a phosphate concentration level of up to 15 mg/l as P in any effluent or waste stream to be discharged into the environment. This regulation is subject to be reviewed every two years, calculated from the date of approval of this document.

Note (2) on detergents, surfactants and ten sides: The MBAS (or methylene blue active substances) – test does not encompass all surface active compounds currently, commercially available. The limit given is therefore only a guideline. Many of the cleaning agents are toxic to biological life-forms in rivers and dams.

It should be taken into consideration that some commercial products interfere with the effective removal of oil, fat and grease by grease and fat traps, by breaking up such long-chain molecules into shorter ones. These cleaning agents thus effectively allow such components to pass through the traps and land into sections of a treatment plant further down the line and interfere with the process there.

Many cleaning agents contain very powerful disinfectants, and/or biocides. Such substances may interact with biological treatment processes. They may reduce the effectiveness of such treatment or 'kill' it completely, if they land in septic tanks, biofilters or even activate-sludge plants. Their activity may be attenuated by dilution.

4. AUTHORIZATION

Herewith, the Guidelines for the Evaluation of Drinking Water for Human Consumption with regard to Chemical, Physical and Bacteriological Quality, as well as the General Standards for Article 21* Permits, amended for detergents, surfactants, ten sides, as well as phosphates, are confirmed and remain in force until further notice.

Issued under my hand with the authority vested in my office, within the Ministry for Agriculture, Water and Rural Development,

PERMANENT SECRETARY

Dr V Shivute

WINDHOEK, DATE STAMP

ANNEXURE B: COVID-19 RISK ASSESSMENT FORM (AS AMENDED PERIODICALLY BASED ON DEVELOPING MEDICAL INFORMATION)

Return to Work Medical Screening

Surname:		**First Name:**		**Company Number**	
Date Of Birth:		**Occupation:**		**Department:**	
Date Employed:		**Date Discharged:**		**Length Of Service:**	

1.

	Vital Data		
	Blood Pressure	**mmHg**	
2.	**Pulse**	**Bpm**	
	Temperature	**°C**	
	HGT (for known diabetics)	**mmol/L**	
3.	**Have you ever had a serious occupational accident or an occupational disease?**	**Yes**	**No**
	Describe		

4.	**Chronic Disease**	**Yes**	**No**
	Hypertension		
	Diabetes		
	Epilepsy		
	Asthma		
	TB		
	Psycho-social problems **		
	If yes and symptomatic, or any vital signs out of normal limits, refer to the medical centre		
	**** If yes, refer to the medical centre for referral for EAP**		
5.	**Do you take any medication (List Below)**	**Yes**	**No**

	Symptom Check	**Yes**	**No**
	Fever		
	Cough		
6.	**Sore Throat**		
	Shortness of breath		
	Any contact with person diagnosed with COVID—19		
	If any symptoms are present refer the employee to the isolation area		
	Status (Tick appropriate box)		
7.	**Fit to work**		
	Refer to medical centre		
	Refer to isolation area		

I hereby declare that all the information furnished above is, to the best of my knowledge, true and correct and that no information has been omitted or withheld.

Signature of employee: _____

Assessed by: _____