

11. Environmental Management Plan

This Environmental Management Plan (EMP) should be read in conjunction with the Scoping Report.

The EMP provides a list of mitigation measures to reduce or improve the significance of the negative and positive impacts on the environment which result from the development proposal. The proposed mitigation measures must be implemented during three phases of the project as listed below:

- Phase 1: Planning Phase (see page 4)
- Phase 2: Construction Phase (see page 6)
- Phase 3: Operational Phase (see page 9)

Each phase contains a table which cross-references the impact number, the activity that can affect the receiving environment (or receptor) and the potential impact as identified in the EIA. Proposed mitigations are provided with their related monitoring action and the party who is responsible to ensure implementation. The last column indicates the significance of the impact after the implementation of said mitigation measures.

All roleplayers in the project should check their responsibility to ensure implementation and compliance with the recommended mitigation measures.

11.1. Roleplayers and Responsibilities

- Proponent:** Means Michael Christiaan Ludeke (including all related companies) who is responsible for the development proposal and successful implementation of this EMP and any other conditions as determined by the Local Authority. The Proponent needs to ensure that other roleplayers also adhere to the EMP and needs to notify the Local Authority and the project team of any changes to the development proposal.
- Staff:** Means a group of persons who are employed by the Proponent to help with the day-to-day management of the business during the operational phase which includes, but is not limited to, running the business, providing goods and services to customers, and the general upkeep of the business premises.
- Architect:** Means the person or company which are appointed by the Proponent to design the new building for submission to the Local Authority for approval. The Architect is responsible to ensure the building plans are approved as part of the Building Plan Approval process and providing input and assistance to the Contractor during the construction phase.
- Contractor:** Means the person or company which are appointed by the Proponent to construct the new building after receiving building plan approval from the Local Authority. Contractor should raise any deviations from the building plan with the Architect/Proponent and ensure a safe and equitable work environment is provided to all employees. The Contractor must appoint and nominate a Safety Officer and adhere to the mitigations set out in the EMP.

Safety Officer: A person appointed or nominated by the Contractor who is responsible for planning, implementing and monitoring safety at work to ensure compliance with occupational health and safety guidelines. This person is also responsible to adhere to the proposed mitigations set out during the construction phase of the project.

EAP: Means the Environmental Assessment Practitioner who shall be responsible for conducting the environmental process, consulting Interested and Affected Parties, compilation and submission of the Scoping/EIA/EMP reports to the Competent Authority. The EAP should help inform/train the relevant stakeholders to implement their duties as provided in the EMP.

Local Authority: Means the Municipality of Swakopmund and its various departments. The Local Authority provides checks and balances to ensure the proposed development complies with local regulations and national legislation. The Local Authority will issue statutory approvals which include, but are not limited to, a closure certificate, closure, rezoning and consolidation approval, a building permit, a completion certificate, a business registration certificate and a fitness certificate.

Government: Means the Government of Namibia.



11.2. Planning Phase

Table 1: Proposed mitigation measures for the Planning Phase

PROPOSED MITIGATIONS: PLANNING PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
P1	Permanent closure of Public Open Space	Overall Public Open Space in Swakopmund Extension 39	Loss of Public Open Space Negative: The permanent closure will result in the loss of 2251m ² of Public Open Space.	[1] Erf 9793 Swakopmund Ext 39 must be rezoned to Public Open Space as a means to replace at least 1835m ² of open space in the township layout.	None	Proponent & Local Authority None	From -HIGH to -LOW
P2	Permanent closure of Public Open Space	Erf 9806 is not landscaped as a park.	Neighbourhood Amenity Positive: The property is not currently landscaped or used as a typical playpark, therefore, the removal of this "amenity" will be less significant to residents.	[1] No mitigations are proposed	None	Proponent & Local Authority	Remains +MEDIUM
P3	Proposed supermarket	Surrounding neighbourhood.	Lower Travel Demand Positive: The supermarket will serve the northern suburbs of Ocean View, reducing travel demand and trips to other shops located further away. The nearby availability goods and services are considered a neighbourhood amenity.	[1] No mitigations are proposed	None	Proponent	Remains +MEDIUM
P4	Notification of application and public participation.	General public and neighbouring properties.	Public Input Negative: Some interested and affected parties raised objections to the proposed development.	[1] Any new complaints should be lodged with the Proponent and Local Authority and be managed on an ad-hoc basis.	Neighbour Complaints	Proponent & Local Authority	From -MEDIUM to -MEDIUM

PROPOSED MITIGATIONS: PLANNING PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
P5	Payment of purchase price of Erven 9793 and 9806 Swakopmund Ext 39.	Lack of Council revenue sources for the general upkeep and maintenance of the town.	Council Revenue Generation Positive: Increase in Council revenue due to payment of betterment fees and purchase price for Erven 9793 and 9806 Swakopmund Ext 39 and increased business rates, taxes and service charges.	[1] Council should aim to use the revenue generated through the application to upgrade bulk services across the town.	Local Authority	Proponent & Local Authority	Remains +MEDIUM
P6	Development of the site.	No heritage status or cultural value to the land.	Cultural Impacts Positive: No heritage or cultural significance has been destroyed.	[1] No mitigations are proposed.	None	Proponent	Remains +LOW
P7	Future decommissioning of the building by the proponent or new owner.	Neighbouring properties and residents.	Decommission Impacts Negative: Similar construction-related impacts have been identified in Table 2.	[1] Proponent (existing or future) to follow general mitigations as provided in Table 2 on page 6.	Monitor as proposed in Table 2	Proponent	From -MEDIUM to -LOW

11.3. Construction Phase

Table 2: Proposed mitigation measures for the Construction Phase.

PROPOSED MITIGATIONS: CONSTRUCTION PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
C1	Loud noise is generated from vehicles, machinery, drilling and compactors.	Adjacent residents and construction workers without PPE.	Construction Noise Impacts Negative: Construction activity will generate noise, potentially disturb residents and can be harmful to persons working with heavy machinery and equipment without PPE.	[1] Construction activities should be limited between 07:00 to 18:00 during weekdays, including Saturdays. No activity to occur on Sundays. [2] Construction workers must be provided with the appropriate PPE gear (ear muffs and/or earplugs) to prevent noise-induced hearing loss. [3] Equipment/tools must be well maintained and be operated with a limited time to limit potential noise-induced hearing loss and disturbance. [4] Noise levels may not exceed the safety threshold of 90 decibels for 8 hours per worker.	Monitor PPE gear, noise levels with an audiometer, and time limits per day for each worker.	Contractor & Safety Officer	From -HIGH to -LOW
C2	Improper disposal of building rubble and waste.	Site, street and neighbourhood.	Construction Waste Management Negative: Illegal dumping of building rubble can create a public nuisance by nature of its odours, dust, the attraction of vermin or disease vectors, or damage to the environment through pollution or degradation.	[1] Illegal dumping and littering shall not be permitted. [2] No waste may be buried or burned on site. [3] All general building waste is to be disposed of in wheelie and skip bins. [4] Construction employees are to be taught how to dispose of waste and to keep the site clean. [5] No waste may remain on the pavement or on-site after the completion of all work. [6] All waste shall be disposed of at the municipal landfill site.	Check if all waste management requirements are met daily.	Contractor & Safety Officer	From -HIGH to -LOW
C3	Accidental spillage of hazardous waste such as oil, paint or wet cement.	Site, street and neighbourhood.	Hazardous Waste Management Negative: Water paint, oil leakages from heavy vehicles or equipment, and spillage of wet cement can pollute the environment and	[1] Separate waste containers must be provided for hazardous (paint, varnish, petroleum-based products) and general waste. [2] All construction employees are to be taught how to properly dispose of hazardous waste. [3] Contaminated topsoil must be removed and stored in an appropriate waste bin.	Check if all waste management requirements are met daily.	Contractor & Safety Officer	From -MEDIUM to -LOW

PROPOSED MITIGATIONS: CONSTRUCTION PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
			be a health risk to construction workers and residents.	[4] All waste shall be disposed of at the municipal landfill site.			
C4	Excavation of Borrow Pits and/or Earthworks	Flat and level site.	Topsoil Management Positive: Minor earthworks will be required to level the site prior to construction. No borrow pits are required.	[1] No mitigations are proposed.	None	None	Remains +MEDIUM
C5	Lack of sanitation facilities, clean drinking water, warning signs and safety training.	Construction workers and visitors from the public.	Sanitation, Health and Safety Impacts Negative: Lack of sanitation and clean drinking water can create a health risk. Lack of first aid training and awareness of potential injuries can create a safety risk.	[1] Temporary toilets must be provided for construction workers as well as clean drinking water. [2] Construction employees must be taught basic safety risks and first aid training. [3] Appropriate safety signs must be provided to caution employees and the general public about safety risks. [4] No person from the general public is allowed to enter the construction site without the appropriate safety gear. [5] Limit extended working hours and exhaustion. No employee is allowed to work under the influence of alcohol or any other drugs.	Check if all safety requirements are met before construction starts daily.	Contractor & Safety Officer	From -HIGH to -LOW
C6	Generation of dust particles from compaction or release of dry cement.	Construction workers without PPE.	Dust Impacts Negative: Generation of dust during compaction and/or particles from cement or other related construction activity can negatively impact the	[1] Dust generation activities must stop during excessive dust levels and must be suppressed with water. [2] Construction workers must be provided with the appropriate PPE gear (safety goggles and dust masks) when handling dry cement. [3] Clean any surfaces polluted with dust or cement particles.	Monitor PPE gear and hourly dust levels during construction.	Contractor & Safety Officer	From -HIGH to -LOW

PROPOSED MITIGATIONS: CONSTRUCTION PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
			health and safety of workers.				
C7	Labour disputes, proper wages, gender discrimination, and unsafe working environments.	Construction workers especially female workers.	Socio-economic Impacts Negative: Lack of proper compensation and/or unsafe working sites, and unfair gender recruitment, can be harmful to the well-being and health of employees.	[1] The employer must provide suitable compensation to construction workers. [2] The employer must adhere to the provisions of the Labour Act of 2007. [3] The employer must provide a safe, fair and equitable work environment to promote the health and well-being of employees.	Ensure a suitable work environment is provided and address negative socio-economic complaints from employees.	Contractor & Proponent	From -MEDIUM to -LOW
C8	Movement of heavy vehicles to and from the site. Delivery of building material.	Access to other residential properties.	Construction Traffic Impacts Negative: Heavy vehicles will increase traffic congestion and potentially reduce access to residential driveways.	[1] No vehicle may deviate from the approved route unless the street is temporarily or permanently closed as determined by the Local Authority. [2] Approved Route: Daniel Kamho Avenue and Tsavoriate/Ernst Konnecke and Omukwa Street. No other residential street may be used.	Ensure trucks take the approved route to and from the site.	Contractor & Safety Officer	From -MEDIUM to -LOW

11.4. Operational Phase

Table 3: Proposed mitigation measures for the Operational Phase.

PROPOSED MITIGATIONS: OPERATIONAL PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
O1	Operation of new retail supermarket.	Nearby apartments and houses.	Operational Noise Impacts Negative: An increase in traffic activity, delivery of bulk goods during inappropriate times, or ventilation systems may generate noise and disturb nearby residents.	[1] Business shall only operate during standard operating hours or as otherwise determined. [2] No bulk goods may be delivered outside standard operating hours. [3] Ventilation systems must be sound proofed and screened and placed in an appropriate location which minimises noise impacts on nearby residents. [4] Objectional noise must be reported to the Proponent and Local Authority.	Manage neighbour complaints on an ad-hoc basis.	Proponent & Local Authority	From -HIGH to -LOW
O2	Improper disposal of bulk solid waste and management	Site, street and neighbourhood.	Operational Pollution Impacts Negative: Lack of waste containers can result in overfilled containers and a public nuisance and/or damage to waste containers. Lack of maintenance and cleaning can lead to a polluted environment.	[1] Ensure additional wheelie bins are provided if waste containers become overfilled. [2] Do not overfill or put garden waste or heavy building rubble in the wheelie bins but rather skip bins. [3] Replace any stolen or broken wheelie bins within a week. [4] Ensure the lid of the wheelie bins are closed.	Check if business waste is managed properly every week.	Proponent & Staff	From -HIGH to -LOW
O3	Modern building design and associated landscaping.	Undeveloped land in a residential environment.	Aesthetic/Visual Impacts Negative: The proposed retail land use may have a negative visual impact and influence the receiving residential character.	[1] Ensure the design of the building meet general aesthetic guidelines. [2] Ensure areas are landscaped (grass/trees etc) according to site development plan. [3] Ensure the business premises are washed every month and painted yearly.	Aesthetics Committee to evaluate building design.	Architect & Proponent	From -HIGH to -LOW

PROPOSED MITIGATIONS: OPERATIONAL PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
O4	Appointment of permanent employees to operate the business.	High unemployment rates in Swakopmund.	Employment Creation Positive: Creates long-term employment opportunities in the local retail and service industry. Employment indirectly reduces poverty and crime in general.	[1] Proponent to ensure compliance with the Labour Act of 2007.	Manage Staff complaints on an ad-hoc basis.	Proponent & Staff	Remains +MEDIUM
O5	Increase in water and electrical consumption.	Scarce water and energy resources.	Water and Energy Management Negative: The proposed development will increase electrical and water consumption which are scarce resources in Namibia.	[1] Ensure the use of energy-efficient heating elements, appliances, and lighting are used. [2] The use of solar geysers or solar panels is encouraged. [3] Ensure the use of water-efficient faucets, urinals, showers, and toilets (low dual flush cistern). [4] Implement water and energy conservation signs in public restrooms.	Check if water and energy are properly managed daily.	Proponent & Staff	From -MEDIUM To -VERY LOW
O6	Lack of proper toilet facilities or lack of cleaning/maintenance.	General public health and convenience.	Public Sanitation Impact Negative: A potential lack of clean toilets within the proposed building can create a public health risk for workers and/or visitors.	[1] Provide a suitable amount of toilets for staff and visitors to the building to the satisfaction of the Local Authority. [2] Ensure bathrooms are kept clean on daily basis.	Sanitation requirements are to be checked as part of the Building Plan Approval process.	Architect & Local Authority	From -MEDIUM to -LOW
O7	Property access and sight lines.	Daniel Kamho Avenue and Ernst Konnecke Street.	Access and Traffic Impacts Positive: Access can be taken from two street frontages to improve property access and the	[1] Two access points are recommended, subject to the satisfaction of the Local Authority. [2] Ingress/egress must be located as far as possible from the intersection as determined by the Traffic Impact Assessment.	Access is to be dealt with as part of the Building Plan Approval process.	Architect & Local Authority	From +HIGH To +HIGH

PROPOSED MITIGATIONS: OPERATIONAL PHASE							
Impact No.	Activity	Receptor	Potential Impact	Proposed Mitigation	Monitoring Action	Responsible Roleplayer	Significance level after mitigation
			flow of on-site traffic. Distance from the intersection was also deemed suitable in terms of the Traffic Impact Assessment.	[3] Adhere to all recommendations made by the Traffic Impact Assessment to the satisfaction of the Local Authority.			
O8	Parking of vehicles and deliveries.	Large site size and wide road reserve.	Parking Impacts Positive: All parking can be provided on-site which is one of the reasons for the closure of Erf 9806 Swakopmund Ext 39.	[1] Some of the parking to be provided on Erf 9806 Swakopmund Ext 39 which will be closed as Public Open Space. [2] Parking to be provided in accordance with the Swakopmund Zoning Scheme to the satisfaction of the Local Authority.	Parking is to be dealt with as part of the Building Plan Approval process.	Architect & Local Authority	From +HIGH to +HIGH
O9	Disposal of fats, oils and grease (FOG). General increase on effluent load.	Sewerage system network and effluent load.	Sewerage Impacts Negative: Disposal of FOG can potentially clog pipes, create bad odours and can cause sewer backups.	[1] A grease trap must be installed for all kitchens during construction. [2] Clean the grease trap weekly and place any grease or solids in an approved waste container. [3] Wipe and remove any cooking oil, butter, sauces, salad dressing, or leftover food from dishes/equipment using a paper towel before washing.	Clean the grease trap every week. Place FOG in approved waste containers.	Proponent & Staff	From -HIGH to -LOW