Environmental Management Plan (EMP) for the Proposed Establishment & Operation of a New Cemetery on Erf 3040 in Extension 4 and Closure (Discontinuance) Plan for the Existing Cemetery Sites (Site 1 & 2) in the Oranjemund Town, //Karas Region

Document Type: **EMP & Closure (Discontinuance) Plan**

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

LIST OF ABBREVIATIONS

Abbreviation	Meaning
DEAF	Department of Environmental Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EDS	Excel Dynamic Solutions
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act

Abbreviation	Meaning
EMP	Environmental Management Plan
MEFT	Ministry of Environment, Forestry and Tourism
PPE	Personal Protective Equipment
SHE Officer	Safety, Health & Environmental Officer

1 INTRODUCTION

1.1 Project Background and Locality

Oranjemund Town Council (hereinafter referred to as The Proponent) is responsible for the planning and management of the establishment of sufficient grave spaces and maintenance thereof within the Town. The Oranjemund Town currently has two existing and operational cemeteries in Extension 4 operated by the Town Council. The two existing cemetery sites are on Erf 900 in Extension 3 and Erf 1217 (Cemetery Site 2) in Extension 4. However, the two cemeteries are nearing capacity, and existing Cemetery Site 1, for instance no longer has space, because the available space is already reserved by some families hence the need for a new cemetery in the Town. Thus, the need to site and prepare for a new cemetery in the Town. The locality of the existing cemetery sites (marked at ''Site 1'' and ''Site 2'') and proposed cemetery are shown on the map in Figure 1-1.

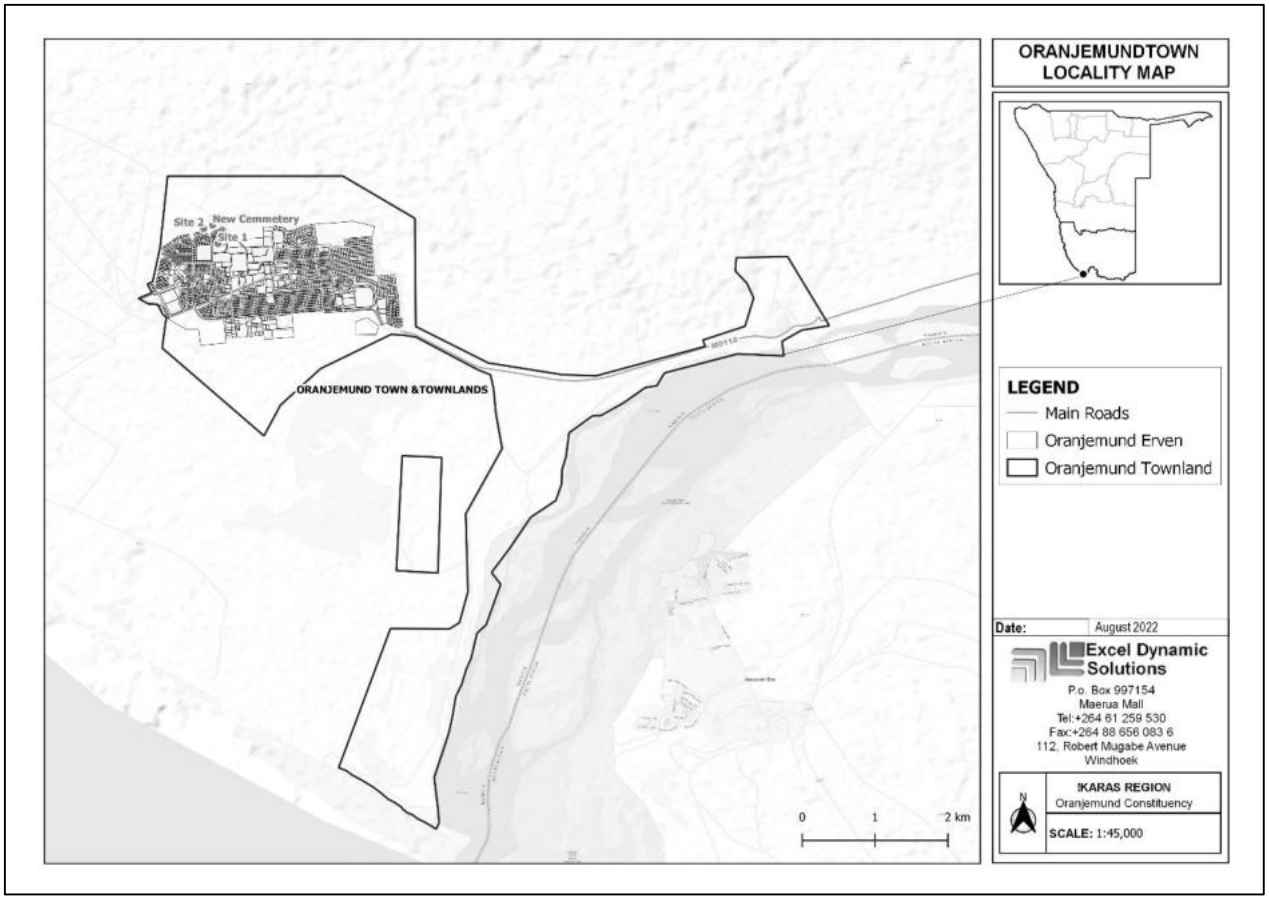

Figure 1-1: Locality Map of the Cemetery (existing and proposed) sites in Oranjemund Town, //Karas Region

The proposed (new) cemetery will be located on Erf 3040 of the Town' Extension 4 as shown in

Figure 1-2.

Figure 1-2: The Land use map of Oranjemund Town with the new cemetery site on the upper ervens

1.2 The Coordinates of the Cemetery Sites

The approximate centre GPS coordinates of the proposed cemetery site and the existing cemetery sites are as follows:

- New Cemetery Site: -28.544618° 16.416224°
- Cemetery Site 1: -28.547209° 16.417164°
- Cemetery Site 2: -28.545124° 16.415174°.

1.3 The Need for Environmental Management & Closure Plan

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall be included as part of the Environmental Assessment (EA) scoping report. A '**Management Plan**' is defined as:

> *"…a plan that describes how activities that may have significant environments effects on the environment are to be mitigated, controlled and monitored."*

It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is, therefore, to guide environmental management throughout the different phases of the cemetery activities, namely: planning & design, construction, operational (and maintenance/upkeep), discontinuance (closure) phase (for both the existing cemeteries and when it is needed, the new cemetery):

- **Planning phase** - This is the stage of the proposed project during which the Proponent prepare all the administrative and technical requirements needed for the actual works on the ground. The planning includes things like obtaining the necessary permitting and authorization, facilitating the procurement such as appointing the construction contractor.
- **Construction phase -** This is the phase where during which the Proponent is constructing the new cemetery through an appointed contractor. This will entail the earthworks for the erection of the cemetery wall, and installation of necessary services, infrastructures, and structures.

- **Operations and Maintenance (Upkeep):** the cemetery is operational (burials are done) and the cemetery is maintenance is done by the Proponent.
- **Closure (Discontinuance)** – This is the stage at which the cemetery reaches capacity, and the Town Council ceases to allow burials from taking place onsite (due to lack of space). The cemetery will be closed off and no further burial will take place. The Town Council will need to look for another site.

This Closure stage applies to the existing two cemetery sites in Oranjemund. The measures to be implemented are provided herein under Chapter 6.

This EMP and Closure Plan thereto has been prepared for the management of potential impacts associated with the proposed cemetery establishment and the closure of the existing cemeteries in the Town. The same Closure Plan will also be utilized to close the new cemetery when it reaches capacity.

The description of the project activities is briefly provided under the next heading (Chapter 2).

2 THE DESCRIPTION OF PROJECT ACTIVITIES

2.1 Planning Phase

Once the ECC is issued, administrative and technical tasks completed, and the Town Council is ready, the construction works, and associated activities will commence. There will be some earthworks to prepare the site for construction and installation necessary services infrastructure and structures required for the cemetery.

2.2 Construction Phase

The construction works for the cemetery will be outsourced to an appointed contractor through the Council's Procurement Procedures. Therefore, the Council cannot predict the exact number of people to be employed by the contractor during this phase, as the contractor is likely to provide its own workforce. However, it is strongly advised that construction contractor and employment preference for unskilled (and skilled, if available) works should be given to the Town's residents.

The following will be constructed in preparation of the new cemetery's operational phase:

- Cemetery wall.
- Site access roads and parking lots preparation.
- Storeroom and male and female ablution facilities (toilets / washrooms).
- Security office.
- Installing information signs of No Vandalism / Stealing of cemetery properties (in both English, and Afrikaans languages for comprehension) and penalty thereof.
- Installation of cemetery entrance and exit points as well as emergency exits points.
- Planting of hedges around the cemetery wall to enhance the sight of the place (visual).
- Demarcation of different cemetery sections to cater for all different religions in the town.
- Installation of other cemetery related facilities and structures.

2.3 Operational and Maintenance (Upkeep) Phase

This is the phase during which the cemetery will be operational. and maintenance done by the Town Council's responsible Division. The Town Council will, as and when required by its residents provides the needed burial arrangements in the cemetery and maintenance.

The cemetery will be operated in a similar as the existing cemeteries but with improvements. Like what is currently done at the existing cemeteries, the graves will be prepared for burials.

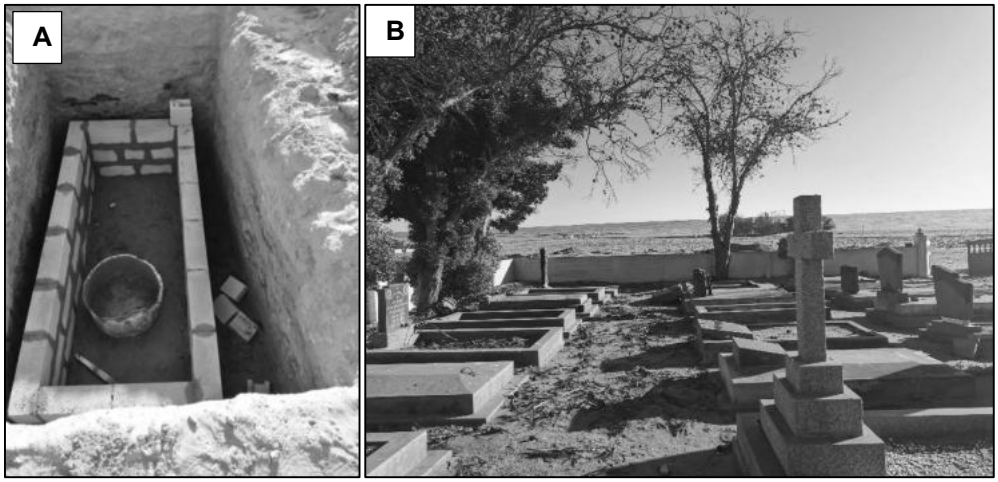

Figure 2-1: A- The typical preparation of a grave in a cemetery (photo contributed) and B- display of completed graves in the Town Council's Cemetery Site 1 (South of the new cemetery site))

2.3.1 Current Council Burial Fees (Tariffs)

According to the preliminary information provided by the Town Council responsible personnel, the current Town Council standard tariff for a standard burial is N$5000 (inclusive of TLB/excavator use and grave fee). The fee for low-cost graves cost N$500 and still born is N$250.

2.3.2 Resources, Services and Infrastructure

The required resources and services that will not require contractors will be provided by the Town Council throughout the cemetery lifecycle. The following services will be required and utilized during the construction and operational phase:

- Human Resources: About 2 to 3 people may be employed by the Town Council to work as caretaker for the cemetery to assist the Town Council Foreman. Security guards will be deployed to guard the cemetery every day, day-and-nighttime. All these employees will be housed in their own homes in Oranjemund and commute to work daily. The security guards will be on site as per their shifts.
- Water supply: Water is required for grave digging and watering the plants around the cemeteries. The Town Council will install water taps at the cemetery from its water supply line. The amount of water used for the project activities is not known but from existing operations, the volume of water is low, therefore, insignificant.
- Power supply: Currently, the cemeteries are not equipped with electricity (for lighting). This will be considered for the upgrading of the existing cemetery sites and the new (proposed)

one. There are powerlines passing on the immediate north of Cemetery Site 2 and the new cemetery site.

- Site accessibility: The site is accessible from the Town via a well-maintained unpaved access road.
- Health and safety: When required to dig graves and carrying out maintenance, the responsible personnel (employees) will be provided with appropriate Personal Protective Equipment (PPE). Since cemeteries are associated at a certain extent with manual labour such as digging, there will be one fully equipped first aid kit onsite.
- Potential Accidental Fire Outbreaks: the site will be equipped with two fully serviced fire extinguishers to be kept at the security control room (at the entrance).
- Waste management: the waste generated from the construction and operational & upkeeping phases of the cemetery will be handled as follows:
    - Solid waste: The cemetery site will be equipped with secured waste bins for each waste type. Depending on the amount generated, waste will be sorted and collected on a weekly basis or monthly and taken to the Town Council Dumpsite which located to the northwest of the site.
    - Construction rubbles: these will be stored at a designated area at the cemetery for disposal at the Town dumpsite.
    - Hazardous waste: all the fuels and lubricants that will be used onsite, particularly during construction will be properly handled and waste fuels will be stored in containers for disposal at the Town Council's hazardous waste management facility.
    - Human waste (sewage): The construction workers will be provided with movable (temporary) toilets. Permanent flushing ablution facilities (toilets) will also be constructed for cemetery operational workers, burial attendees (mourners) as well as cemetery day visitors (families, friends and acquaintances).

2.4 Decommissioning (Closure)

Cemeteries do not necessarily require decommissioning, but rather closure when they reach full capacity. Therefore, when the new cemetery reaches capacity in future, the Town Council will need to close it and look for a new site. Nevertheless, mitigation measures for closure will need to be made and provided in the draft EMP for the cemetery.

2.5 Current Challenges on the Existing Cemetery Sites

2.5.1 Sand accumulation

During site visit, there we visible signs of large volumes of sand accumulating on the outer precast walls of the seemingly low cemetery yards. The sand height settling at the low and dilapidated cemetery walls visibly exerts pressure on these walls that they start to lean in and would eventually fall over, resulting in damage (Figure 2-2).

Figure 2-2: The sand accumulation issue at Cemetery Site 2 (immediate west of new cemetery site)

The Town Council also informed the Environmental Consultant about an incident in 2021 at the existing Cemetery Site 2 (next to the proposed cemetery site). The incident was that a newly dug grave for a burial collapsed and filled with sand that a new grave had to be dug far from the northern corner side of the cemetery wall. The accumulating sand has also been covering some of the graves that have only small metal name tags and these without (unmarked) as shown in Figure 2-3. In terms of the unmarked graves, and these are possibly lost, a historical survey of the two existing cemeteries is recommended to assist the Town Council to properly document the graves, known and unknown.

Figure 2-3: The sand accumulation on and around some graves at Cemetery Site 2

The plan is to upgrade the cemetery wall from precast to brick structured wall.

2.5.2 Vandalism and Theft

There are issues of some people in the Town who steal accessories from the graves at the two existing cemeteries. This includes removal of grave metal name tags and breaking into the cemetery storerooms (Cemetery Site 1). The stolen name tags are said to be potential sold at the local or possible out-of-town scrap yards for personal profits.

Furthermore, it is also suspected that some residents use cemetery grounds for indecency and criminal activities such as having romantic moments at the cemeteries and using the cemeteries as a hiding ground after committing crimes and using drugs.

2.5.3 Background Information and Further Studies on the Existing Cemeteries

The Town Council indicated that they do not have a single documentation or information about the background of the cemeteries. Therefore, they are intending on commissioning a 4-phased study to help them obtain more information on the cemeteries. The proposed study phases would include:

- Phase 1. Planning, design of cemetery, grave layout & numbering System,
- Phase 2. Repairing the infrastructure & beautification for Cemetery Site 1 & 2,
- Phase 3. Data research on cemeteries background and unmarked graves, and
- Phase 4. Developing the cemeteries Information System.

3 LEGAL FRAMEWORK: APPROVALS, LICENSES AND OR PERMITS

This chapter presents the legal requirements in terms of approval, permits, licenses and authorizations associated with the proposed project. These are listed under Table 3-1 below

Table 3-1: The applicable permits and licenses required for the Cemetery project

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations (Government Gazette (GG) No. 4878 Government Notice (GN) No. 30)	The EMA has stipulated requirements to complete the required documentation to obtain an Environmental Clearance Certificate (ECC) for permission to undertake certain listed activities.	The ECC should be renewed every 3 years, counting from the date of issuance. Contact details at the Department of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner **Mr. Timoteus Mufeti** **Tel: +264 61 284 2701**
National Heritage Act No. 27 of 2004	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish an NHC; to establish a National Heritage Register; and to provide for incidental matters. This impact is likely during site preparation for the construction of the cemetery when there is a potential of inadvertent unearthing and damage of heritage resources such as old and unmarked graves, for instance.	Contact Details at National Heritage Council (NHC) of Namibia **Mrs. Erica Ndalikokule (NHC Director): Tel: +264 61 301 903**
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	

4 EMP PLAN IMPLEMENTATION: ROLES & RESPONSIBILITIES

The Oranjemund Town Council, as the project Proponent has the overall responsible for the implementation of the EMP and the associated Closure Plan (for the existing cemeteries sites and the new one). The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set in Table 4-1.

Table 4-1: The list of responsible parties and their roles in implementing the EMP & Closure Plan

Role (Person and or Institution)	Responsibilities
The Proponent (Oranjemund Town Council)	-Managing the implementation of this EMP and updating and maintaining it when necessary. -Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.
Environmental Control Officer (ECO) or Safety, Health & Environmental (SHE) Officer / Environmental Health Officer (EHO)	-Conducting site inspections of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP). -Advising the Proponent on the removal of person(s) and/or equipment not complying with the provisions of this EMP. -Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
Site Operator (Cemetery Operator/Foreman)	-Collaborate with the ECO to ensure the implementation of the EMP, especially on the technical aspects regarding the construction and operations of the cemetery.
Construction Contractor / Manager	-Collaborate with the ECO and Site Operator to ensure the implementation of the EMP, especially on the technical aspects regarding construction of the cemetery.

5 KEY ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

5.1 Key Impact Identification

The key potential impacts associated with the cemetery construction and operations have been identified and assessed in the EIA Report. The identified impacts are as follows:

Positive impacts:

- Social: gathering of families to give their loved ones a respectful and dignified burial process in a comfortable place.
- Employment and business opportunities: creation of jobs to the locals (temporary work for the construction phase, and permanent / contractual work for cemetery maintenance and security).

Potential Negative impacts:

- Physical land (soil) disturbance
- Impact on water resources (groundwater pollution)
- Environmental pollution (waste generation)
- Accidental fire outbreaks
- Site safety and security
- Occupation and community health and safety risks
- Vehicular traffic safety
- Noise
- Archaeological resources impact through inadvertent unearthing onsite
- Visual impact.

The above-listed impacts will be mitigated by the implementation of measures provided under the next section

5.2 Environmental Management and Mitigation Measures: New Cemetery

The management actions provided under this section are aimed at avoiding the above-listed potential negative impacts, where possible. Where it is impossible to avoid these impacts, measures are provided to reduce the impacts' significance. The measures recommended (Table 5-1 and Table 5-2) for the potential impacts as described and assessed in the EIA Report.

Table 5-1: The Environmental management and mitigation measures for the Planning and Design Phase of the new cemetery

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Planning and Design Phase					
Cemetery wall design	Utilization of unsuitable materials such as precast	-The cemetery wall should be constructed with bricks to ensure that the graves are protected from sand accumulation from out. -The materials for the wall should be well designed, heights and thickness wise.	-The cemetery wall materials are bricks and not precast. -The wall is higher than the walls on the existing cemeteries	-Proponent	Pre-construction
Site infrastructures and services	Lack of necessary infrastructure	-The cemetery design should include the lighting of the cemetery. -The design should include the security control gate, water supply, ablution facilities, parking areas, and aesthetic trees -The roads to the site should properly designed and included in the final site layout.	-All the infrastructures and services are included in the cemetery layout	-Proponent (Planning)	During this phase and before construction
Employment opportunities	Unfair practices of labour recruitment an opportunity leads to conflicts	-Local should be given preference for works (skilled, semi and unskilled) -Equal opportunities should be given to women and men.	-There is a fair recruitment process -Locals are given preference for the work -Local c	-Proponent (Human Resources Department)	When deemed necessary during operations
Goods and services procurement	The procurement of goods and service from outsiders over local business	-The procurement of works for site upgrade works should follow a fair and transparent process. -Procurements for goods and services should be open only to local and Namibian companies with strong local participation.	-Goods and services are procured from Oranjemund -Local businesses are considered for	-Proponent (Procurement Department)	When deemed necessary throughout the project -Construction contractor to be

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	may lead to conflicts and overlooking local suppliers	-The business opportunities such as cleaning services and site maintenance should be given to local companies	procurement opportunities		appointed before construction commences

Table 5-2: The Environmental management and mitigation measures for the Construction and Operational & Maintenance of the new cemetery

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Construction and Operational & Maintenance Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all project personnel. -All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit done throughout the project activities, monthly. -Implement EMP non-compliance penalty system onsite.	-Compliance monitoring conducted bi-annually and should be recorded. -The ECC is renewed every 3 years -Bi-annual reports -Records of EMP training conducted.	-ECO	Throughout the project cycle
Soils	Physical soil / land disturbance and loss of topsoil during site upgrade	-The topsoil that was stripped from certain site areas to enable project works should returned to its initial position, should be returned. -Site soils should not be disturbed, if not needed or related to the actual construction works.	-No stockpiled soils after completion of works -No new erosion gullies.	-ECO	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-All construction trenches and pits should be backfilled, and areas rehabilitated. -Use techniques to minimise compaction of soil, such as restricting access during wet conditions, and using protective boarding and low ground pressure machinery.			
Site Fire outbreaks	Accidental fire outbreaks risks	-Warning signs of ''NO SMOKING'' and ''NO THROWING USED CIGARETTES' should be clearly written and pasted at cemetery entrance. -The site should be equipped with at least two fire extinguishers at the security gate and should be serviced accordingly. The personnel should be trained on how to use these. -No open fires to be created onsite. -The contact details of fire services should be readily and visibly displayed at the entrance office/security control. -All personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials (e.g., rubbish, dry vegetation, and hydrocarbon-soaked soil) onsite.	-No open fires by site personnel -Fire extinguishers are readily available and up to date with service	-Proponent -ECO -Site Operator	Throughout the project cycle
Site safety and security	Compromising site security and safety	-A high concrete (brick) wall should be constructed around the site for its security -A modern security gate and security control point should be installed at the site entrance. -the site should be equipped with 24-hour security surveillance in case of opportunistic activities such as theft and vandalism.	-The site wall and security measures are in place	-Proponent -Construction Contractor	During construction

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Occupational and community health and safety	Project related injuries and other health and safety related issues on personnel and locals	-Project personnel should be inducted provided on the health & safety measures, including the risks of mishandling equipment, materials on site and health and safety risk associated with their respective jobs. -The contact details of ambulance and other extensive health care services should be readily and visibly displayed onsite site personnel. -A fully furnished first aid kit should always be onsite and ensure that 2 or 3 site personnel are trained on administering first aid. -Employees and visitors should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, or safety glasses (depending on the job undertaken onsite, etc. -The heavy vehicle, equipment and machinery should be properly secured to prevent any harm or injury to the Proponent's personnel. -An emergency preparedness plan should be compiled, and all personnel appropriately trained. -Personnel should not be allowed to drink alcohol prior to and during working hours nor allowed on site when under the influence of alcohol (leading to health & safety risks).	-Comprehensive health and safety plan for all project activities compiled. -Occupational Health and Safety Personnel -Health and Safety Trainings -Fully equipped first aid kit onsite -Trained workers to administer first aid	-Proponent -ECO -Construction Contractor	Throughout the project cycle
Water Resources Use	Over-utilization of water resources	-Water reuse/recycling methods should be implemented as far as practicable. -Project water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water. -Water conservation awareness and saving measures training should be provided to all the project workers in	-No water leakages from site water storage tanks -Water is recycled where possible	-ECO -Construction Contractor	Throughout the project life cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		both phases so that they understand the importance of conserving water and become accountable			
Soils and water resources	Soils and water resources pollution	-Spill control preventive measures should be in place on site to management soil pollution. This entails basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training for all personnel -Personnel should be sensitized on the impacts of soil pollution. -Project machines and equipment should be equipped with drip trays to contain possible oil spills. -The natural dune sediments must be removed prior to cemetery development because they are well sorted fine sands without the capacity of retention and very low stability when grave development takes place. -The soil composition should be prepared with recycled materials if necessary (crushed materials). -Polluted soil should be removed immediately and put in the designated hazardous waste storage containers for later disposal. -Refuelling of vehicles should be done offsite (at filling stations in Town). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area offsite.	-No complaints of pollutants on the soils due to project activities -No visible oil spills on the ground or pollution spots. -Sufficient waste containers provided onsite -Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized during construction	-ECO	Throughout the project life cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Biodiversity	Loss Fauna and Flora	-Avoid the killing or hurting of all kinds of animals, birds and reptiles encountered onsite. -Environmental awareness on the importance of biodiversity preservation should be provided to workers.	-No killing or disturbance of biodiversity	-ECO -Site Operator -Construction Contractor	Throughout the project cycle
Road use and safety	Increase in vehicular traffic flow	-The transportation of materials to and from site should be limited to twice a week only. -Ensure that the access roads are frequently maintained and have sufficient road signs. -Vehicles drivers should be in possession of valid and appropriate driving licenses and adhere to the road safety rules. -Drivers should drive 40km/hour and be on the lookout for people on roadsides, especially children. -Vehicle's drivers should not be allowed to operate vehicles while under the influence of alcohol. -The deliveries and collection to and from site should be done during weekdays between the hours of 8am & 5pm.	-No complaints from members of the public regarding vehicular traffic issues related to the project activities. -All vehicle drivers are appropriately licensed and possession of valid driving licenses.	-Proponent -ECO -Construction Contractor -Site Operator	Throughout the project life cycle
Archaeology and heritage	Accidental disturbance of archaeological or heritage objects	-An archaeological survey/study should be undertaken by a qualified archaeologist to assess the site prior to construction works. -Identification of unmarked graves or any archaeological significant resources onsite should not be disturbed but are to be reported to the project Town Council who then informs the National Heritage Council for relocation. -On-site personnel must be sensitized to exercise and recognize "Chance Finds Heritage".	-Preservation of all artefacts and objects that are discovered on and around the project site during earthworks	-Construction Contractor -Site Operator -ECO	As and when required, i.e., and during site works

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered while conducting site works. -When the removal of topsoil and subsoil on the site for site works, the site should be monitored for subsurface archaeological materials by Environmental personnel.			
Littering and waste management (general waste and sanitation)	Environmental Pollution	-Project personnel should be sensitized to dispose of waste in a responsible manner and not to litter. -Ensure that there are no wastes left onsite. -All domestic and general operational waste produced daily should be contained onsite until such that time it is removed by the waste removal staff / contractor. -No waste may be buried or burned on site. -Maintain separate waste bins for different wastes waste should be in separate waste bins.	-No visible litter within and around the Project area owing to the Project -Provision of sufficient waste storage containers -Waste management awareness	-Construction Contractor -Site Operator -ECO	Throughout the project cycle
	Wastewater (sewage)	-Ensure that there are sufficient toilets (portable) for the construction phase and flushing toilets for the operational phase). Sewage and wastewater generated onsite during construction should be properly contained for transportation to the Town's sewage treatment facility -Open defecation on /around the site is strictly prohibited.	-Adequate toilet and basic ablution facilities on site.	-Proponent -ECO	Throughout the project cycle
Air Quality	Dust generation, fumes (poor air quality)	-Vehicles should only be driven at the authorized site speed to avoid dust generation onsite and surroundings.	-No complaints from the public about vehicle emissions and dust generation.	-Site Operator -ECO -Construction Contractor	Throughout the project cycle

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-The heavy vehicles and fumes generating equipment (during construction and maintenance) should not be left idling when not in use. -Avoid heavy trenching during windy times of the day during construction.	-Visible efforts to curb dust		
Noise	Nuisance	-Noise from operations' vehicles and equipment on the sites should be at acceptable levels. -The project activities should not be carried out during the night or before 08h00 in the morning and should be carried out during weekdays only. -Working hours for construction works should be restricted to between 08h00 and 17h00 to avoid noise generated by equipment and the movement of vehicles before or after hours. -Construction workers and contractors should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.	-No complaints from local communities such as neighbours about excessive noise from site -Noise protective equipment for workers	-Construction Contractor -Site Operator -ECO	Throughout the project cycle
Visual	Visual nuisance due to the cemetery presence	-Consider using vegetation along the cemetery wall to give the site a unique and beautiful look (aesthetics). -All the available options to improve the aesthetic of the site should be considered so that it blends in with the surrounding area or at least enhance it for a better appeal to the community -The aesthetic trees should be taken care of by watering and trimming them when necessary.	-The site is vegetated to beautify the cemetery	-Proponent -Site Operator	During construction and ongoing (during maintenance)

6 CLOSURE PLAN FOR THE EXISTING CEMETERIES AND NEW CEMETERY IN THE FUTURE

According to[1] (Myslinska *et al* (2021), the decommissioning of cemeteries seems to be an issue that arouses moral opposition among many. Due to constantly expanding cities, the topic of decommissioning or re-using cemetery space arises often, and changes to the functions of cemetery sites occur regardless of the moral assessment of this practice.

It should be noted that decommissioning a cemetery does not imply removing the buried bodies, but this is a cessation of burying bodies in the cemetery once capacity has been reached, i.e., there is no space for new graves. Therefore, decommissioning (closure) in this case would mean discontinuance to bury bodies and maintaining the cemetery despite no new burials are made. This is because the cemetery will continue to hold memories of families who have their deceased family members or loved ones resting in the cemetery. Cemeteries are also heritage sites for generations to come, as they would be keen to know where some of their great-great grandparents (ancestors) were raised to rest. Table 6-1 below contains few measures to be taken by the Oranjemund Town Council when closing the cemeteries once they reach capacity (discontinuing operations on the cemetery).

Table 6-1: The Management measures for the Closure (Discontinuance) of the Cemeteries in Oranjemund Town

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Closure (Discontinuance) Phase				
Cemetery Wall and associated infrastructure	-For the existing cemeteries, the walls should be upgraded to a high brick structured wall to ensure the security of the cemeteries and protect the graves from sand accumulation from outside the cemeteries. -The water taps, and lightings should continue watering the vegetation at the cemeteries and providing light, respectively, even after cemetery closure. -For the new cemetery, once it reaches capacity and ready for discontinuance, the water taps, and lightings should continue watering the	-The cemetery is looked after as it was during the operational phase	-Proponent	Upon cessation of site operations

[1] Myslinska, A.; Szczepanski, J.; Dłubakowski, W. The Impact of Decommissioning Cemeteries on the Urban Ecosystem. Sustainability 2021, 13, 9303. https://doi.org/10.3390/ su13169303

Aspect	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	cemetery vegetation and providing light, respectively, even after cemetery closure. -The cemetery wall should stay intact and should be maintained. -The security control should remain onsite to ensure that the inactive cemetery is not vandalised or there is no theft of cemetery infrastructures and grave accessories.			
Graves and cemetery access	-The graves should remain intact and undisturbed, as the families will continue to visit their loved ones' final resting places (graves) in the cemetery. -The grave markings should be maintained by informing the next of kin of the need to revamp their loved ones' graves. -Access to the cemetery for visits and grave cleaning/revamping by family members or loved ones should be strictly done from 08am to 5pm only. No visitations or grave upgrade after 5pm. -No unauthorized gatherings within the cemetery premises.	-The community adheres to the measures provided -No cemetery entrance by the public after 5pm	-Proponent	Upon cessation of site operations
Infrastructure and structures: Decommissioning of services and infrastructures	-Dismantling of structures such as offices and materials that are no longer required upon cemetery closure. These, if still in usable condition can be utilized for other purposes in the Town. If cannot be reused, the materials should be taken to the Town Council dumpsite. -All the waste generated from leading to the last days on site should be transported to the Town Council dumpsite. -Transport all equipment to offsite storage facilities.	-Structures are used for other purposes in the Town -Waste transported to an approved dumpsite	-Proponent -ECO	At the end of the site operations

APPENDIX 1: CHANCE FINDS PROCEDURE (AFTER KINAHAN, 2020)

Areas of proposed project are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such finds.

Scope: The "*chance finds*" procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

Compliance: The "chance finds" procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): "*a person who discovers any archaeological …. object ……must as soon as practicable report the discovery to the Council*". The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

Manager/Supervisor must report the finding to the following competent authorities:

- National Heritage Council of Namibia (+264 61 244 375 / Technical Office +264 61 301 903)
- National Museum (+264 61 276 800),
- National Forensic Laboratory (+264 61 240 461).

Archaeological material must NOT be touched. Tempering with the materials is an offence under the heritage act and punishable upon conviction by the law.

Responsibility:

Operator:	To exercise due caution if archaeological remains are found
Foreman:	To secure site and advise management timeously
Superintendent:	To determine safe working boundary and request inspection
Archaeologist:	To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material:

Oranjemund Cemetery

a) If operating machinery or equipment stop work

b) Identify the site with flag tape

c) Determine GPS position if possible

d) Report findings to foreman

Action by foreman

a) Report findings, site location and actions taken to superintendent

b) Cease any works in immediate vicinity

Action by superintendent

a) Visit site and determine whether work can proceed without damage to findings

b) Determine and mark exclusion boundary

c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by Archaeologist

a) Inspect site and confirm addition to project GIS

b) Advise NHC and request written permission to remove findings from work area

c) Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by archaeologist to confirm that remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.

Oranjemund Cemetery