ENVIRONMENTAL ASSESSMENT
FOR
THE EXISTING ROSH PINAH LANDFILL SITE, !KARAS REGION NAMIBIA

(AMENDED) OPERATIONAL
ENVIRONMENTAL MANAGEMENT PLAN

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PROJECT DETAILS

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ABBREVIATIONS

COA	Conditions of Authorisation
DWAF	Department of Water Affairs and Forestry
EAP	Environmental Assessment Practitioner
EC	Environmental Clearance
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
EMP	Environmental Management Programme
EO	Environmental Officer
GIS	Geographic information system
I&APs	Interested and Affected Parties
IFC	International Finance Corporation
MEFT: DEA	Ministry of Environment, Forestry & Tourism: Department of Environmental Affairs
NEC	Namibia Environmental Consultants
OEMP	Operational Environmental Management Plan

1 INTRODUCTION

1.1 PURPOSE OF THIS EMP

This Environmental Management Plan (EMP) addresses the management of environmental impacts related to the operation of the existing landfill site in Rosh Pinah. The document should be used as a basis for managing, mitigating and monitoring the environmental impacts associated with the operational phases of the environmental study, conducted by Namibia Environmental Consultants (NEC).

This EMP is intended for the management of the impacts of the waste storage facility and operation thereof, rehabilitation and revegetation of affected areas only. This EMP is therefore a standalone document which must be kept and used on site during the operational phase of the landfill site.

The Operational Environmental Management Plan (OEMP) contains the necessary mitigation and recommended actions as well as the timeframe and person responsible for the actions. The ultimate responsibility of the implementation of the OEMP rests on the Manager of RoshSkor/operator. The OEMP is a legal binding document that is an important part of the Environmental Assessment process and needs to be strictly adhered to. Workers must be made aware of the OEMP, their responsibilities and sensitive / no-go areas. Any transgressions must be treated as serious with remedial action to be taken.

This Operational Environmental Management Plan has been compiled for the management of operational phase of the existing landfill site of Rosh Pinah. The OEMP will provide specific recommendations and mitigation measures on how to minimise negative impacts and therefore protecting the environment on a social as well as biophysical level.

1.2 OBJECTIVES AND PURPOSE OF THE EMP

The primary objectives of the EMP are as follows:

- To describe action plans for achieving the mitigation measures described in the EIA.
- To indicate responsibilities, schedules and staff resources regarding the implementation of these action plans.
- To highlight a monitoring programme, that will enable review of the success of the EMP and the provision of such information to the relevant decision-makers.
- To provide specific recommendations and mitigation measures on how to minimise negative impacts and therefore protecting the environment mostly on the biophysical as well as social level.
- In general, the purpose of this EMP is to formulate mitigatory measures that should be implemented and made binding to all contractors during the operational phase.
- To outline mitigation measures and environmental specifications which must be implemented to ensure environmental and social protection of the surrounding environment and to prevent long-term or permanent environmental degradation.

1.3 COMPONENTS OF THE OEMP

Environmental issues identified in this OEMP are specific to the operational phase of the landfill site. The OEMP has been prepared in an issues-based format that nominates for each environmental issue or impacting activity, the tasks that are required to be addressed during the operational phases of the landfill site, covering:

- Environmental issues
- Environmental objectives
- Environmental intent
- Control measures
- Responsibility
- Monitoring
- Reporting
- Corrective action

In terms of the Environmental Assessment Policy of 1994 and the Environmental Management Act No 7 of 2007 (EMA), certain activities have been identified, which could have a substantially detrimental effect on the environment. These listed activities require an Environmental Clearance Certificate (ECC) from the competent environmental authority, i.e. Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (MEFT: DEA), prior to commencing. The following activities identified in the EIA Regulations (Table 1) apply to the proposed project:

Table 1: List of triggered activities identified in the EIA Regulations which apply to the proposed project

Activity description and No(s):	**Description of relevant Activity**	**The portion of the development as per the project description that relates to the applicable listed activity**
Activity 2.1 Waste Management, Treatment, Handling and Disposal Activities	The construction of facilities for waste sites, treatment of waste and disposal of waste	The project entails the operation of the existing landfill site.
Activity 2.3 Waste Management, Treatment, Handling and Disposal Activities	The import, processing, use and recycling, temporary storage, storage transit or export of waste.	Waste is currently stored on site.

2 PROJECT LOCATION AND DESCRIPTION

2.1 PROJECT LOCATION

Rosh Pinah is a small mining town located in southern Namibia near the Orange River in !Karas Region, close to the border with South Africa. The town is located 360 km south of Keetmanshoop. Rosh Pinah belongs to the Oranjemund electoral constituency and it is connected via the road to Aus. The existing landfill site of Rosh Pinah is located approximately 4km out of Rosh Pinah on the western side of the C13 road leading to Vedanta Mine (well-known as “Skorpion Zinc”) – *refer to **figure 1** for the locality map below.*

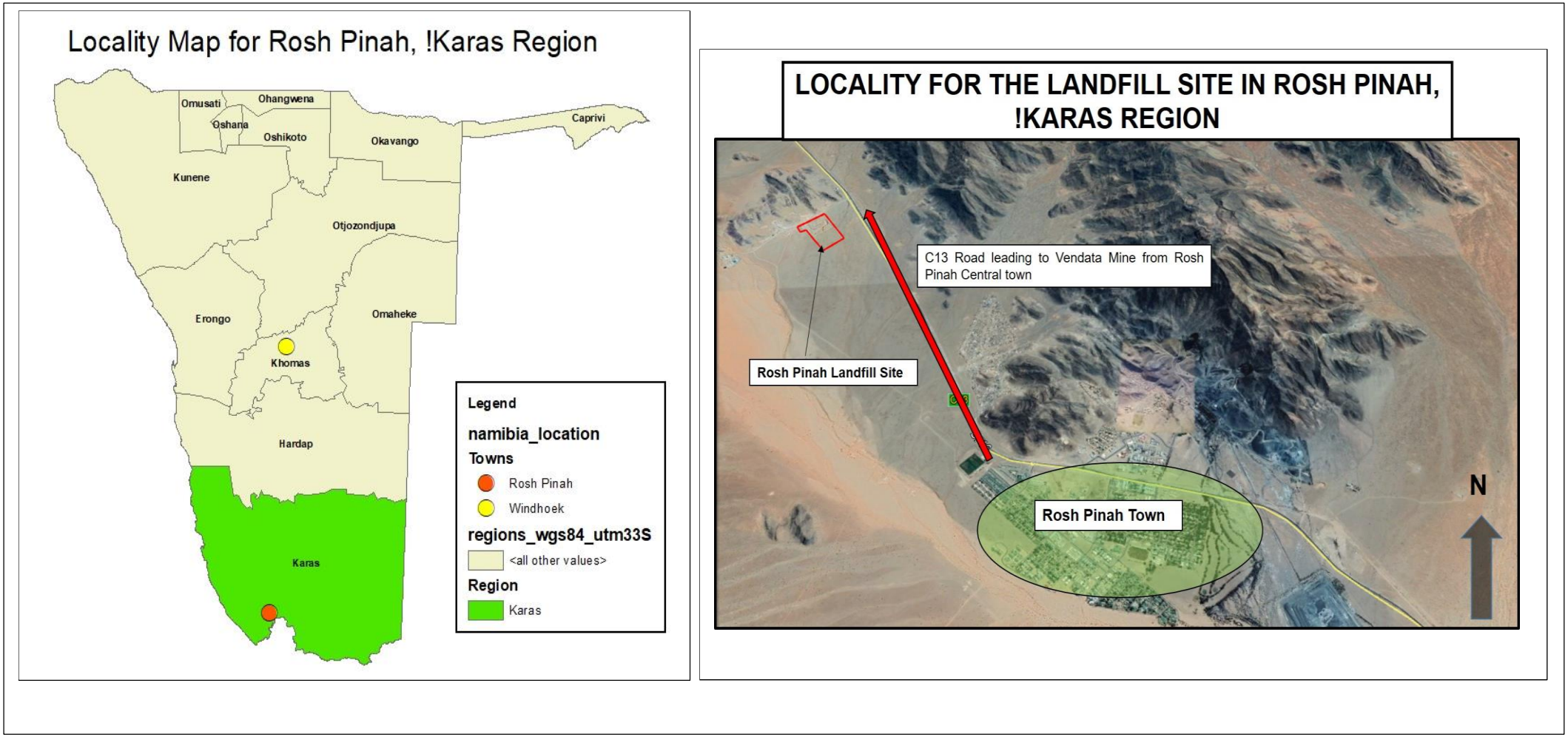

Figure 1: Locality map of Rosh Pinah and the existing landfill site

2.2 PROJECT DESCRIPTION

Rosh Pinah is a small mining town located in southern Namibia near the Orange River in !Karas Region, close to the border with South Africa. Rosh Pinah was proclaimed a town due to the expansion of the town as well as the establishment of the Skorpion Zinc mine and refinery. The Rosh Pinah Zinc Corporation together with the Skorpion Zinc mine had previously formed a joint venture company known as RoshSkor Township (Pty) Ltd with the intention to manage the town and set in place the initial management structures and systems needed to operate the town until the new local authority structures are established. In that regard, over the years the town has been growing and expanding due to the increase in population growth as well as job opportunities within the area mostly created by the mines.

Given the increase in population growth of the town, RoshSkor Township (Pty) Ltd which manages the town realised the need to construct a landfill site for the local residents. This idea came to pass due to the fact that the town has over the years been utilising the mine's landfill site which then became inconvenient for the residents as well as RoshSkor Township. The new landfill site for the town was then designed and constructed such that it only caters for general and mostly domestic waste generated within the Rosh Pinah Town. The landfill site is located about 5 km out of town for the reason that it does not pose any health hazards to the residents of the town and also avoid any environmental effects that can negatively affect the town at large.

The landfill site measures approximately 5 hectares in extent which is divide into 4 cells (1-4 cells). These cells were designed in such a way that when cell 1 reaches its capacity then the next cell will be prepared for the waste disposal and this may only be done after closing off cell 1 and a bund wall will be built in between the cells. Individual cells will be partially closed when they reach capacity by ensuring an adequate daily cover. Cell 1 has a pit in which waste collected from the town is disposed off. This pit is however not lined for the reason that at the time of construction, the proponent was not aware of the necessity for the pit to be lined and also because the construction of the site was done during the time that the Environmental Regulations were not passed. However, the remaining cells will be lined with a High-Density Polythylene lining (HDPE). This lining is intended to be a permeable barrier which is laid down under engineered landfill sites. Until it deteriorates, the liner retards the migration of leachate and its toxic constituents into underlying aquifers or nearby surface water bodies which then causes spoliation of the local water.

RoshSkor Township (Pty) Ltd (proponent) is of the intention to renew and acquire an Environmental Clearance Certificate (ECC) and has appointed Namibia Environmental Consultants to undertake the Environmental compliance exercise in order to obtain the ECC for the existing landfill site in Rosh Pinah. The competent authority is the Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (MEFT: DEA).

The process will be undertaken in terms of the gazette Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA regulations) in terms of the Environmental Management Act (No 7of 2007) (herein referred to as the EMA).

2.2.1 Existing structure of the Landfill Site

The landfill site is fenced off such that it prevents waste or litter from being blown away by the wind into the town. RoshSkor Township (Pty) Ltd is utilising cell 1 which has not yet reached its capacity in terms of waste deposition. Waste disposed off in this cell is compacted with

sand to avoid windblown litter. The cell is big enough such that it will take RoshSkor Township (Pty) Ltd to fill up within the next 23 years. Once cell 4 has reached its capacity, the landfill will site will be closed and this will include capping of the landfill using material from the bund wall, placing topsoil on the capping and removing all infrastructure. Only the are on which cell 1 was excavated is disturbed, the rest of the site is still in its original form or state.

The landfill site has a guardhouse for the security guards whereby they are employed and work on a shift basis to manage the site at all times. The security guards keep scavengers and animals from entering the site and ensure that only authorised personnel are allowed on site and that the details for the waste removal contractor's vehicles are recorded upon entry to the site. The guards give direction to the waste delivery vehicles to the areas where waste should be offloaded. During offloading, the guards undertake a visual inspection of the load to ensure that no hazardous waste and in particular medical waste is disposed off at the landfill site. All medical and other hazardous waste is transported to Oranjemund or Luderitz for incineration. In addition, workers are employed to pick windblown rubbish around the site and put it back to the landfill site.

There is a recycling facility on site where recycling is done by the waste removal contractor whereby some residents are employed to assist with sorting the waste.

2.2.2 Engineering Services for the Landfill Site

Engineering services for the landfill site entail storm water control, access roads as well as the bund wall of the site which are further explained below.

Storm Water Control:

Storm water falling uphill of the site is diverted around the site by means of the bund wall that is constructed around the site.

Storm water runoff from completed cells will be diverted from the adjacent active cells by means an earth bund wall between the cells.

The storm water diversion system around the site is maintained to ensure that any water falling on the outskirts of the site is diverted away. Contaminated water within the perimeter of the site is contained and used for dust suppression on the site. The bund wall of the site prevents surface and storm water from entering the site.

Access to the Site:

Access to the site is obtained from the trunk road that branches from the C13 road leading to Vedanta mine. The road is not tarred and therefore frequent maintenance of the road is required and should be carried out by RoshSkor Township (Pty) Ltd.

Access to the road is controlled by means of 1.8m high perimeter fence and lockable gate. The fence consists of a closure mesh wire fence to control windblown litter. Access to the individual cells is designed to be via the ramps provided during the construction of the remaining cells.

Bund Wall:

An earth bund wall is provided on the perimeter of the site outside the security fence such that it is able to prevent windblown litter from scattering around the area. The wall is provided to reduce the aesthetic impact during the operation and also divert the storm water falling uphill of the mountain around the site.

*An engineering design of the landfill site can be viewed under **Annexure E.***

2.2.3 Status Quo of the Landfill Site Operations

Below are key points that relate to the current operations of the landfill site:

- The landfill site is currently fenced off to prevent litter from being blown away by the wind into the town and this also prevents scavengers and/or animals from entering the site.
- RoshSkor Township (Pty) Ltd is still making use of cell 1 which has still not yet reached its capacity in terms of waste deposition. Currently, the waste that is disposed off into this cell is compacted with sand to prevent it from being blown away by the wind as can be seen in **figure 2, 3 & 4** below.
- The sand used to compact the sand is from the excavation of cell1 and it will be used to level off the cell once it has reached its capacity (**refer to figure 5 below**).
- At the moment, only the area on which cell 1 was excavated is disturbed and the rest of the site is in its original form.
- The amount of waste disposed off at the landfill site has decreased given that Skorpion Zinc mine whose employees are retrenched is currently operating on a maintenance plan basis. These employees resided in the Mine's residential dwellings and have migrated back to their home towns leaving these houses empty and this has led to the decrease in domestic waste generation.
- RoshSkor Township (Pty) Ltd does not intend to change the scope *(as initially applied for)* of operation for the landfill site – the scope of operation will remain as is.
- Therefore, there are no new items on the scope to be considered.
- The height of the fence has currently been extended **(figure 8)** as a result of several complaints (pertaining to windblown litter) from the residents to the town's management.
- As per the site visit, the proponent has been in compliance with the Environmental Management Plan (EMP) and it has been effective enough thus far.
- Mitigation measures tabled in the initial EMP have also been well implemented to any negative social nuisance and environmental damage.
- The recycling facility on site is still in operation and the waste removal contractor together with their employees continue to sort the waste before disposal (**refer to figure 6**).

Figure 2: Waste currently in Cell 1

Figure 3: Compacted waste

Figure 4: Waste being compacted in the process

Figure 5: Heaps of sand excavated from cell 1 used to compact the waste

Figure 6: Recycling facility on site

Figure 7: The security Guard's house

Figure 8: The extension of the fence

3 LEGAL ENVIRONMENTAL FRAMEWORK

This chapter provides an overview of the legislation and policy framework for the EIA being undertaken. The EIA will be undertaken in compliance with the relevant Namibian environmental legislation as well as taking into account international best practice for impact assessments.

3.1 THE CONSTITUTION OF THE REPUBLIC OF NAMIBIA

There are two clauses contained in the Namibian Constitution that are of particular relevance to sound environmental management practice, viz. articles 91(c) and 95(l). In summary, these refer to:

- Guarding against over-utilisation of biological natural resources;
- Limiting over-exploitation of non-renewable resources;
- Ensuring ecosystem functionality;
- Protecting Namibia's sense of place and character;
- Maintaining biological diversity; and
- Pursuing sustainable natural resource use.

The above therefore commits the State to actively promote and sustain environmental welfare of the nation by formulating and institutionalising policies to accomplish the abovementioned sustainable development objectives.

3.2 NAMIBIA'S ENVIRONMENTAL MANAGEMENT ACT (EMA)

In giving effect to articles 91(c) and 95(l) of the Constitution of Namibia, general principles for sound management of the environment and natural resources in an integrated manner have been formulated. This resulted in Namibia's Environmental Assessment Policy of 1994. To give statutory effect to this Policy, the Environmental Management Act was approved in 2007, and gazetted on 27 December 2007 as the Environmental Management Act (Act No. 7 of 2007) (EMA), Government Gazette No. 3966. Part 1 of the Environmental Management Act describes the various rights and obligations that pertain to citizens and the Government alike, including an environment that does not pose threats to human health, proper protection of the environment, broadened locus standi on the part of individuals and communities, and reasonable access to information regarding the state of the environment. Part 2 of the Act sets out 13 principles of environmental management, as follows:

- Renewable resources shall be utilised on a sustainable basis for the benefit of current and future generations of Namibians.
- Community involvement in natural resource management and sharing in the resulting benefits shall be promoted and facilitated.
- Public participation in decisions affecting the environment shall be promoted.
- Fair and equitable access to natural resources shall be promoted.
- Equitable access to sufficient water of acceptable quality and adequate sanitation shall be promoted and the water needs of ecological systems shall be fulfilled to ensure the sustainability of such systems.
- The precautionary principle and the strategy of preventative action shall be applied.

- There shall be prior environmental assessment of projects and proposals which may significantly affect the environment or use of natural resources.
- Sustainable development shall be promoted in land-use planning.
- Namibia's movable and immovable cultural and natural heritage, including its biodiversity, shall be protected and respected for the benefit of current and future generations.
- Generators of waste and polluting substances shall adopt the best practicable environmental option to reduce such generation at source.
- The polluter pays principle shall be applied.
- Reduction, reuse and recycling of waste shall be promoted.
- There shall be no importation of waste into Namibia.
- Promotion of the coordinated and integrated management of the environment;
- The Minister of Environment and Tourism was enabled to give effect to Namibia's obligations under international environmental conventions;
- Certain institutions were established to provide for a Sustainable Development Commission and Environmental Commissioner".

As the organ of state responsible for management and protection of its natural resources, the MEFT: DEA is committed to pursuing these principles of environmental management.

3.3 ENVIRONMENTAL GUIDELINES

The EMA, under section 5, states that if a proposal is likely to affect people, the following guidelines should be considered in Scoping / EA:

- The location of the development in relation to interested and affected parties (I&APS), communities or individuals;
- The number of people likely to be involved;
- The reliance of such people on the resources likely to be affected, the resources, time and expertise available for scoping / EA;
- The level of education and literacy of parties to be consulted;
- The socio-economic status of affected communities;
- The level of organisation of affected communities;
- The degree of homogeneity of the public involved;
- History of any previous conflict or lack of consultation;
- Social, cultural or traditional norms within the community; and
- The preferred language used within the community.

The MEFT also released a Draft Procedures and Guidelines for conducting EIAs and compiling EMPs in April 2008. These guidelines outline the procedures and principles that are to be followed. It will be consulted throughout the EIA process to ensure an effective process and an EMP that addresses all identified impacts.

3.4 NAMIBIA VISION 2030

The principles that underpin Vision 2030, a policy framework for Namibia's long-term national development, comprise the following:

- Good governance;

- Partnership;
- Capacity enhancement;
- Comparative advantage;
- Sustainable development;
- Economic growth;
- National sovereignty and human integrity;
- Environment; and
- Peace and security.

Vision 2030 states that natural environments are disappearing quickly. Consequently, the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets. Vision 2030 emphasises the importance of promoting Healthy Living which includes that the majority of Namibians are provided with basic services. The importance of developing Wealth, Livelihood and the Economy is also emphasised by Vision 2030. This development therefore supports the goals to be achieved in Vision 2030, because the bulk services will provide the community currently living in non-favourable conditions with potable water, electricity and waste removal services. Not only will this improve their health, it will also result in further development of Rosh Pinah.

3.5 BIODIVERSITY LEGISLATION AND POLICIES

The following policies, aimed at biodiversity, may also be relevant for the proposed project:

- Convention on Biological Diversity (2000)
- Namibian Water Corporation Act (1997)
- Pollution and Waste Management Bill (Draft)
- Soil Conservation Act (1969)
- United Nations Framework Convention on Climate Change (1992)
- Water Resources Management Act (2004)
- Climate Change Policy (Draft with Attorney General's office)

The applicability of the aforementioned policies and legislation has been explored in further detail during this EIA phase, based on the findings of the impact assessment and specialist investigations.

3.6 SOCIAL POLICIES

3.6.1 The Ministry of Environment and Tourism (MEFT) Policy on HIV & AIDS

The relevance of this policy for the proposed project stems from the fact that construction activities may involve the establishment of temporary construction workforce in Rosh Pinah. Experience with other construction projects in a developing-world context has shown that, where construction workers have the opportunity to interact with local community, a significant risk is created for the development of social conditions and behaviors that contribute to the spread of HIV and AIDS.

In response to the threat the pandemic poses, MEFT has recently developed a policy on HIV and AIDS. This policy, which was developed with support from United States Agency for International Development (USAID), Gesellschaft für Technische Zusammenarbeit (GTZ) and the German Development Fund, provides for a non-discriminatory work environment and for workplace programs managed by a Ministry-wide committee.

3.7 WATER ACT NO.54 OF 1956

This Act provides for Constitutional demands including pollution prevention, ecological and resource conservation and sustainable utilisation. In terms of this Act, all water resources are the property of the State and the EIA process is used as a fundamental management tool.

A water resource includes a watercourse, surface water, estuary or aquifer, and, where relevant, its bed and banks. A watercourse means a river or spring; a natural channel in which water flows regularly or intermittently; a wetland lake or dam, into which or from which water flows; and any collection of water that the Minister may declare to be a watercourse. Permits are required in terms of the Act for undertaking the following activity relevant to the proposed project:

- Disposal of waste in a manner that may detrimentally impact on a water resource in terms of Section 21 (g).

3.8 WATER RESOURCES MANAGEMENT ACT OF NAMIBIA (2004)

This act repealed the existing South African Water Act No.54 of 1956 which was used by Namibia. This Act ensures that Namibia's water resources are managed, developed, protected, conserved and used in ways which are consistent with fundamental principles depicted in section 3 of this Act. Part IX regulates the control and protection of groundwater resources. Part XI, titled Water Pollution Control, regulates discharge of effluent by permit. Thus developers are required to efficiently plan for sewage disposal.

3.9 THE DRAFT WETLAND POLICY (1993)

This policy requires that any wetlands and its associated hydrological functions form a part to be managed in such a way that their biodiversity, vital ecological functions and life support systems are protected for the benefit of present and future generations.

3.10 POLLUTION CONTROL AND WASTE MANAGEMENT BILL (IN PREPARATION)

This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) (below) when it comes into force.

Only Parts 2 and 7 of the Bill applies to the existing landfill site of Rosh Pinah.

Part 2 stipulates that no person shall discharge or cause to be discharged any pollutant to the air from a process except under and in accordance with the provisions of an air pollution licence issued under section 23. It further provides for procedures to be followed in licence application, fees to be paid and required terms of conditions for air pollution licences.

Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances.

In terms of water pollution, it will be illegal to discharge of, or dispose of, pollutants into any watercourse without a Water Pollution Licence (apart from certain accepted discharges). Similarly, an Air Quality Licence will be required for any pollution discharged to air above a certain threshold.

The Bill also provides for noise, dust or odour control that may be considered a nuisance. The Bill advocates for duty of care with respect to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.

This bill aims to promote sustainable development and to prevent and regulate the discharge of pollutants into the environment. Once this bill is enacted it will make provision for the establishment of an appropriate framework for integrated pollution prevention and control.

The proposed development would not entail the discharge to air and or water, but might result in the generation of noise and dust during waste compaction.

3.11 PUBLIC HEALTH ACT 36 OF 1919 AND SUBSEQUENT AMENDMENTS

The Act, with emphasis to Section 119 prohibits the presence of nuisance on any land occupied. The term nuisance for the purpose of this EIA is specifically relevant specified, where relevant in Section 122 as follows:

- Any area of land kept or permitted to remain in such a state as to be offensive, or liable to cause any infectious, communicable or preventable disease or injury or danger to health; or
- Any other condition whatever which is offensive, injurious or dangerous to health.

3.12 NATIONAL HERITAGE ACT (NO.76 OF 1969)

The Act calls for the protection and conservation of heritage resources and artefacts. Should any archaeological material, e.g. old weapons, coins, bones found during the construction, work should stop immediately and the National Heritage Council of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material.

3.13 CUSTOMARY LAW

A large number of Namibians liver under indigenous customary law. Customary law is recognised by the Namibian Constitution under Article 66. Section 3 of the Traditional Authorities Act No. 25 of 2000, gives certain powers to traditional authorities. One of the duties of the traditional authorities is to ensure that members of the community use the environment and its resources in a sustainable manner. Thus the authority can institute measures to promote good waste management practices.

4 RESPONSIBLE PARTIES

RoshSkor Township (Pty) Ltd as the proponent will be responsible for the implementation of this Operational Environmental Management Plan (OEMP) during the operational phase of the landfill site. This responsibility, in some instances may be delegated to contractors in the employment of RoshSkor Township (Pty) Ltd for practical purposes, but RoshSkor Township (Pty) Ltd will retain legal responsibility. In that capacity, RoshSkor Township (Pty) Ltd should delegate suitably qualified person(s) with the responsibility to ensure implementation of the EMP and will:

- Revise the EMP as required and inform the relevant parties of the changes.
- Protect the environment and rehabilitate the environment as prescribed in the EMP.

The following people are also required during the operation in order to implement various Environmental management related issues.

4.1 ENVIRONMENTAL CONTROL OFFICER

Given the operation of the landfill site, a suitably qualified and experienced Environmental Control Officer (ECO) shall be appointed by the Proponent to ensure that the mitigation rehabilitation measures are implemented and to ensure compliance with the provisions of the EMP.

4.1.1 Roles and Responsibilities

The role of the ECO is to oversee and monitor compliance with and implementation of the operational phase EMP. The ECO is therefore responsible for the following responsibilities:

i. Liaison with the community, RoshSkor Township (Pty) Ltd and Environmental Authorities;
ii. Ensuring that the requisite remedial action is implemented in the event of non-compliance;
iii. Ensuring the proactive and effective implementation and management of environmental protection measures;
iv. Ensuring that a register of public complaints is maintained by the proponent and that any and all public comments or issues are appropriately reported and addressed;
v. Routine recording and reporting of environmental activities on a monthly basis;
vi. Recording and reporting of environmental incidents;
vii. Notifying the Environmental Authorities immediately of any events or incidents that may cause significant environmental damage or breach the requirements of the EMP; and
viii. Environmental Awareness Training courses to be conducted to the Contractor's entire team of workers.
ix. Ensure that periodic environmental performance audits are undertaken on the project implementation.
x. Take appropriate action if the specifications contained in the EMP are not followed.

xi. Monitor and verify that environmental impacts are kept to a minimum, as far as possible.

xii. Ensure that activities on site comply with all relevant environmental legislation.

4.2 ROSHSKOR TOWNSHIP (PTY) LTD

RoshSkor Township (Pty) Ltd must undertake to monitor activities on a daily basis and the ultimate responsibility for satisfying the monitoring requirements. The manager is also responsible for ensuring compliance with all aspects of monitoring.

5 MANAGEMENT OBJECTIVES AND PRINCIPLES

The following objectives provide the framework for the environmental principles for environmental management of the project:

- Minimise the potential for deterioration of air quality during all project phases.
- Avoid “disturbing” noise levels (an increase in the ambient noise level of 7dB (A) or more at the border of the property from which the noise emanates).
- Minimise the use of clean water and avoid water wastage.
- Prevent the contamination of surface and ground water as a result of the landfill site activities.
- Ensure that an appropriate Emergency Procedure is in place to safeguard the environment, local community and employees.
- Practise the reduction and recycling of waste materials.
- Enhance the creation of direct job opportunities for the surrounding community and contribution of the project to the local economy, especially during labour intensive phases (construction and decommissioning).
- Reduce the disturbance of the surrounding community from site activities to a minimum.
- Maintain transparent relations with the Interested & Affected Parties (IAPs) (including surrounding community, authorities and employees).
- Ensure that the community and employees are not subjected to increased safety hazards.

These guideline principles will form the basis for environmental management on site. Should these principles require modification or additions during the project this should be done at the discretion of the responsible person, who will ensure that any modifications are communicated, explained to and discussed with all affected parties.

The environmental operational procedures and environmental issues are identified and managed, under different phases of the project. The different phases are:

- Operational Phase; and
- Decommissioning Phase

5.1 THE 5 R POLLUTION PREVENTION HIERARCHY

The 5 R pollution prevention hierarchy (Reduce, Reuse, Recycle, Recover, Residuals Management) is a useful tool for regional districts to use when looking at opportunities to improve their solid waste management systems (refer to figure 8). The order of preference in the pollution prevention hierarchy is for waste management at one level to only be undertaken when feasible opportunities. For pollution prevention at a higher level have been taken. For example, opportunities for recycling should be explored only after all opportunities for reduction and reuse of materials have been exhausted. There are benefits to this approach;

- Actions taken at higher levels in the pollution prevention hierarchy can eliminate or reduce the environmental management costs of actions at lower levels. For example,

waste prevention programs can reduce costs associated with handling waste in the first place.

- The pollution prevention hierarchy can potentially reduce the environmental impacts of product manufacturing and distribution. For example, reuse and to a lesser extent recycling, will reduce the environmental impact of extracting and processing primary resources while the use of recycled material can reduce the energy cost of manufacturing new products.
- Adherence to the highest level of performance under the pollution prevention hierarchy can encourage innovation and investment by industry to improve product design and reduce waste.

Figure 9: 5 R Pollution Prevention Hierarchy

6 OPERATIONAL PHASE

6.1 SCOPE

The general principles contained within the EMP shall apply to all operational activities. All operational activities shall observe any relevant environmental legislation and in so doing shall be undertaken in such a manner as to minimise impacts on the natural and social environment.

6.2 GENERAL

RoshSkor Township (Pty) Ltd, as the proponent is responsible for:

- Ensuring that the objectives of the EMP are given effect;
- Ensuring that all environmental impacts are managed in accordance with the EMP;
- Ensuring that all monitoring and compliance auditing occurs in line with the EMP;
- Ensuring that the environment is rehabilitated as far as practicable to its natural state or existing land use practices;
- Any environmental damage, pollution as a result of activities both in and outside the site boundaries.

With regards to the above, RoshSkor Township (Pty) Ltd shall conduct his activities so as to cause the east possible disturbance to the existing amenities, whether natural or man-made in accordance with all the current statutory requirements. Special care shall be taken by the Company manger to prevent irreversible damage to the environment. RoshSkor Township (Pty) Ltd shall take adequate steps to educate all members of his workforce as well as his supervisory staff on the relevant environmental laws and protection requirements. RoshSkor Township (Pty) Ltd shall supplement these steps with prominently displayed notices and signs in strategic locations to remind personnel of environmental obligations.

A suitably qualified independent ECO shall be appointed by the company manager to undertake the following tasks:

- Monitoring of all activities for compliance with the various environmental requirements at regular intervals;
- Routine environmental auditing and reporting of the landfill site performance against the EMP;
- Reporting of environmental incidents and routine reporting of environmental issues associated with construction activities and
- Identifying environmental non-conformances and initiating measures to remedy such issues.

6.3 ENVIRONMENTAL AWARENESS AND COMPETENCE

It is important to ensure that all personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental harm.

6.3.1 Environmental, Health and Safety Induction Course

RoshSkor Township (Pty) Ltd is responsible for informing employees of their environmental obligations in terms of the EMP and for ensuring that employees are adequately experienced

and properly trained in order to execute the works in a manner that will minimise environmental impacts.

RoshSkor Township (Pty) Ltd shall ensure that all his employees attend an Environmental, Health and Safety Induction Course. This course shall be structured to ensure that attendees:

- Acquire a basic understanding of the key environmental features on the site and its immediate environs;
- Become familiar with the environmental controls contained in the EMP;
- Are made aware of the need to conserve water and minimise waste;
- Receive pertinent, written instructions regarding compliance with the relevant environmental management requirements (viz. typical environmental "do's" and "don'ts");
- Receive detailed training on site health and safety requirements, emergency responses and site evacuation procedures in terms of the Contractor's health and safety plan;
- Are aware that a copy of the EMP is readily available on site and that all site staff are aware of the location and have access to the document;
- Are informed that employee information posters, outlining the environmental "do's" and "don'ts" (as per the environmental awareness training course) will be placed at prominent locations throughout the site.

6.3.2 Human Resource and Opportunities Management

Job creation, inward migration of workers and accommodation of a workforce within a small community have the potential to result in significant social impacts.

Given that RoshSkor Township (Pty) Ltd will be most affected by the project, it is consistent with international best-practice standards (such as the Performance Standards of the IFC) that they should be given special consideration in terms of the benefits arising from the project. In order to enhance the benefits of employment creation for these communities, it is recommended that the following measures be implemented:

- RoshSkor Township (Pty) Ltd shall establish a formal and organised recruitment process.
- RoshSkor Township (Pty) Ltd should be encouraged to employ local labour (i.e. from Rosh Pinah) where possible.
- RoshSkor Township (Pty) Ltd should be encouraged to recruit Namibian labourers.

6.3.3 Working Times

Given the operational phase of the landfill site, RoshSkor Township (Pty) Ltd is expected to adhere to working times of employees. Working shifts must be strictly implemented even on public holidays.

6.3.4 Dust

RoshSkor Township (Pty) Ltd shall take all reasonable measures to minimise the generation of dust from the landfill site. Appropriate dust control measures include the following:

- Waste delivery vehicles to only use designated roads;

- Cover material of the waste must be made wet at least during windy periods to minimise windblown dust.

6.4 METHOD STATEMENTS

Method Statements that shall be provided by the Contractor 14 days prior to the mobilisation on site include:

1. Operational and rehabilitation plan, covering:
    a. Procedure for the clearing of vegetation, grubbing of the works and handling, stockpiling and disposal of the debris arising from the grubbing operations;
    b. Measures to be used to protect the topsoil stockpiles against contamination or erosion;
    c. Measures used to protect cleared areas from erosion, windblown dust and suspended solid contaminated runoff;
    d. Method to be used for backfilling, shaping, spacing and shape of erosion protection berms and the redistribution of stockpiled topsoil (care to be taken that topsoil is not over diluted with sub-soil); and
    e. Seeding and aftercare of planted materials and control of alien invasive. It is encouraged that concurrent rehabilitation practices are used where possible.

6.5 ENVIRONMENTAL CONSIDERATIONS PERTAINING TO SITE LAYOUT - WHERE APPLICABLE

6.5.1 Access, Traffic and Haul Roads

RoshSkor Township (Pty) Ltd shall be held responsible for the control of the landfill related traffic, including that of waste delivery vehicles in ensuring that these remain on designated routes and within designated working times. The following mitigation measures are further proposed to limit the impact of traffic in the area:

- New roads/tracks should be constructed if the quality of existing roads deteriorates.
- Where possible, repair or upgrade existing roads/tracks.
- Road surface should be regularly assessed and upgraded where appropriate.
- No off-road driving is allowed.
- Good driving and adherence to safety rules at all times.
- Drivers must have the correct licence for the vehicle they are operating.

No new parking bay, haul or access road or passage of any sort shall be opened or be caused to be opened without prior consent of RoshSkor Township (Pty) Ltd.

6.5.2 Solid Waste Management

No waste materials, including domestic, organic or construction wastes shall be burnt, dumped or buried on the Site. RoshSkor Township (Pty) Ltd shall, at its own cost make available the time and resources required in recovering any litter or other wastes that have been dispersed as a result of the activities on site.

6.5.3 Equipment Maintenance and Storage (Recycling)

All vehicles and equipment shall be kept in good working order and shall be operated by designated and competent operators. Leaking or damaged equipment shall be repaired immediately or removed from the Site. Where emergency, *in situ* maintenance operations are required, the company manager shall ensure that the soil or vegetation does not become contaminated.

RoshSkor Township (Pty) Ltd shall ensure that oil and lubricant containers are stored in an area where the ground has been protected. The containers shall be inspected regularly to ensure that no leakage occurs. The dispensing mechanism of the oil / lubricant storage container shall be stored in a waterproof container when not in use. RoshSkor Township (Pty) Ltd or the Waste Removal Contractors shall take all reasonable precautions to prevent accidental and incidental spillage during the use of oils.

6.5.4 Materials

6.5.4.1 Materials Handling, Use and Storage

The Waste Removal Contractor shall ensure that any delivery drivers are informed of all procedures and restrictions, including “no-go” areas and designated haul routes.

Collected waste shall be properly secured and covered to ensure safe passage between destinations. The Waste Removal Contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials.

6.5.5 Fire Control

Fires are NOT by all means permitted on the landfill site. Burning of waste for disposal purposes is not permitted. Any fires that occur outside of designated areas shall be reported to RoshSkor Township (Pty) Ltd immediately.

RoshSkor Township (Pty) Ltd shall be responsible for ensuring that immediate and appropriate actions are taken in the event of a fire and shall ensure that employees are aware of the procedures to be followed.

6.5.6 Emergency Procedures

The company manager shall ensure that the necessary materials and equipment for dealing with leaks and spills are available on site at all times.

6.5.7 Erosion, Water Quality, and Storm Water Control

RoshSkor Township (Pty) Ltd shall take all reasonable steps to prevent or remediate damage to the environment resulting from the works in the form of erosion and sedimentation. RoshSkor Township (Pty) Ltd shall immediately remedy any situation that is or has the potential to result in soil erosion, water pollution and sedimentation from the works as a result of storm water flows. A preventative approach must be adopted whereby the extent of clearance and disturbance is limited to those areas required at that time. If required, RoshSkor Township (Pty) Ltd shall establish necessary storm water control mechanisms to effectively control the movement of water through and off the landfill site.

6.6 PROTECTION OF NATURAL FEATURES AND HERITAGE RESOURCES

6.6.1 Protection of Freshwater Ecosystems

Contaminated runoff from the construction site should be prevented from entering the water courses (if there is any) as far as possible. Where pipelines cross streams, they should do so in a manner that does not impede or divert the flow in the channels.

The following mitigation measures are proposed for the protection of watercourses:

- Contaminated runoff from the site should be prevented from entering water bodies as far as possible.
- All waste delivered to the landfill site should be properly stored.
- Avoid development in and destruction of the drainage lines throughout the area.
- Disposal of waste from the sites should be properly managed.

6.6.2 Protection of Natural Systems

RoshSkor Township (Pty) Ltd shall ensure that the disturbance of vegetation and faunal communities and their habitats is kept to a minimum. The following mitigation and management measures are prescribed in this regard:

- RoshSkor Township (Pty) Ltd shall ensure that the disturbance of vegetation is kept to a minimum.
- RoshSkor Township (Pty) Ltd shall ensure that the bulldozer operators are clearly instructed and are informed about the objectives of the EMP.
- Vegetation should only be removed where it is absolutely necessary.
- Show overall environmental commitment by adapting a minimalistic damage approach during the construction phase.
- Employees found guilty or eve suspected to be guilty of poaching or setting traps shall not be allowed to continue with work at the landfill site and shall be immediately removed from the working team.

6.7 COMPLIANCE AND PENALTIES

6.7.1 Compliance

Environmental management is concerned with the results of the proponent's operations to carry out the control of how the operations of the landfill site are carried out. Tolerance with respect to environmental matters applies not only to the finished product but also to the standards of the day-to-day operations required to complete the works.

It is thus required that RoshSkor Township (Pty) Ltd shall comply with the environmental requirements on an on-going basis and any failure to do so will entitle the ECO to certify the imposition of a penalty as detailed below, if such non-compliance is not corrected within a period of one week of notification thereof.

6.7.2 Penalties

Penalties will be issued for certain transgressions. Penalties may be issued per incident at the discretion of the ECO. Such penalties will be issued in addition to any remedial cost incurred as a result of the non-compliance with this specification. The ECO will inform the company manager of the contravention and the amount of the penalty and shall be entitled to deduct the amount from the monies due under the Contract.

Penalties for the activities detailed below will be imposed by the ECO on the proponent.

a)	Persistent and un-repaired oil leaks from machinery (compacting bulldozer)	N$ 2,000
b)	Persistent failure to monitor and empty drip trays timeously.	N$ 2,000
c)	The use of inappropriate methods for refuelling, resulting in spillages.	N$ 2,000
d)	Deliberate lighting of illegal fires on site.	N$ 2,000
e)	Hunting, trapping and collection of animals (per unit taken)	N$ 10,000
f)	Employees not making use of site ablution facilities.	N$ 2,000
g)	Unauthorised removal of vegetation.	N$ 500
h)	Damage to vegetation or ground arising from equipment leaving designated haul or access routes.	N$ 5,000

For each subsequent similar offence, the penalty shall be doubled in value to a maximum value of N$ 20,000. The ECO shall be the judge as to what constitutes a transgression in terms of this clause.

6.8 ENVIRONMENTAL INCIDENT REPORTING

All environmental incidents occurring at the proposed site will be recorded. The incident report will have to include time, date, location and nature of the incident, extent of the incident, actions and personnel involved.

All complaints received from the neighbouring community should be directed to RoshSkor Township (Pty) Ltd management. In addition, the proponent's management should also be able to respond to the complainant within a week (even if pending further investigation).

It is important that the issues raised are considered and that the complainant feels that their concerns have been addressed to and whenever possible actions taken to address these. All complaints should be entered in the environmental register and all responses and actions taken to address these should be recorded.

6.9 ENVIRONMENTAL MONITORING

Periodic environmental monitoring must be taken on a regular basis. Monitoring should be done in order to ensure compliance with all aspects of the EMP. Findings should be liaised with to all responsible officers as chain command.

6.10 NON-COMPLIANCE OF THE EMP

Problems may occur in carrying out mitigation measures or monitoring procedures that could result in non-compliance of the EMP. The responsible personnel should encourage staff to comply with the EMP and address acts of non-compliance and penalties.

RoshSkor Township (Pty) Ltd is responsible for reporting non-conformance with the EMP to the ECO. The proponent's management in consultation with the ECO must thereafter undertake the following activities:

- Investigate and identify the cause of non-conformance.
- Report matters of non-conformance to RoshSkor Township (Pty) Ltd (depending on the severity of the incident)
- Implement suitable corrective action as well as prevent recurrence of the incident.

- Assign responsibility to corrective and preventative action.
- Any corrective action taken to eliminate the causes of non-conformance shall be appropriate to the magnitude of the problems and commensurate with the environmental impact encountered.

6.11 SUMMARY OF OPERATIONAL PHASE MANAGEMENT ACTIONS

The table below is only a summary the management actions to be taken in order to minimise negative impacts. Please turn back to the relevant section above for more details on the various management actions to be taken for each impact.

Table 2: Summarized Operational Phase Management Table

Aspect	Management Objective	Management Actions	Responsibility
General	To ensure overall compliance of the EMP.	• A maintenance plan for the landfill site must be developed to ensure that good working order is achieved.	RoshSkor Township (Pty) Ltd.
Monitoring	To avoid environmental pollution from potential leakages.	• A monitoring and eradication programme should be put in place whereby the distribution and abundance of alien and invader fauna are monitored through fixed trapping points.	RoshSkor Township (Pty) Ltd
Waste composition, inventory and inspection	To ensure proper management of the overall landfill site as well as the segregation of this waste.	• Landfill operator must ensure that a register is kept throughout the life of the facility of the quantities and characteristics of deposited waste. • Information on waste register must include the origin of waste, type of waste, date of delivery and identification of the producer or collector. • Regular visual inspection at the waste point of deposit should be undertaken to ensure that waste is properly stored/separated at the site.	RoshSkor Township (Pty) Ltd
Management of Landfill odours	To manage odour generated from the landfill site.	• Accidental fires at the landfill site where burning is not permitted must be extinguished immediately. Appropriate operational procedures involving the spreading and smothering of burning waste rather than the application of water must be implemented. • An area or cell should be regularly covered with temporary cover material to reduce gas emissions from the area. The prompt covering of malodorous waste to reduce odour problems is a Minimum Requirement. In extreme cases, odour suppressants such as spray curtains may be required.	RoshSkor Township (Pty) Ltd

Aspect	Management Objective	Management Actions	Responsibility
Requirements for Waste Management and Collection Contractors	To ensure good handling of the waste.	• General waste shall be collected by a recognised service provider and be disposed off at the registered waste site. • Recyclable waste shall be collected by a recognised recycling service provider for appropriate recycling purposes. • Scrap metals, steel and glass must be collected in separate waste skips and each container intended for identified recyclable waste must be clearly marked, i.e. scrap metals only.	RoshSkor Township (Pty) Ltd
Health and Safety	To ensure and maintain the safety workers on site.	• An emergency plan (including fire management) must be developed and implemented; the relevant authority must approve this plan. • Ensure that all fire extinguishers are replaced on or before their expiry dates.	RoshSkor Township (Pty) Ltd
Fire Control	To prevent and maintain accidental fires on site.	• Fires are not permitted on site. • Accidental fires must be extinguished out immediately.	RoshSkor Township (Pty) Ltd
Traffic flow and safety impacts	Operational traffic shall be controlled to ensure minimal disruption to normal road users.	• Road surfaces in the immediate vicinity of the site should be monitored and the relevant authority should be notified of any unsafe situation; • Speed limit of not more than 5 km/h should be applied in the forecourt area of the landfill site.	RoshSkor Township (Pty) Ltd
Dust	To limit dust levels	• Appropriate dust control measures should be implemented. • Top cover soil being used to cover rubbish must be watered to reduce dust. • Measure must be taken immediately to mitigate a situation in which excessive fugitive dust is observed.	RoshSkor Township (Pty) Ltd
Air Quality	To limit air quality impacts.	• During windy or dry periods, dust suppression techniques should be implemented.	RoshSkor Township (Pty) Ltd

Aspect	Management Objective	Management Actions	Responsibility
Emergency Procedures	All employees are aware of emergency procedures.	• RoshSkor Township (Pty) Ltd shall ensure that employees are aware of the procedure to be followed for dealing with (any) leaks and spills. • RoshSkor Township (Pty) Ltd shall ensure that the necessary materials and equipment for dealing with (any) leaks and spills (operating machinery) are available on the site at all times.	RoshSkor Township (Pty) Ltd
Storm Water Management	To avoid contamination of groundwater and surface water sources from possible leakages.	• Storm water wherever possible must be allowed to soak into the ground within the area where water has been discharged. • In the event where silt runoff occurs of the landfill sit, the cause of this must be investigated and suitable mitigation measures should be employed. This may include vegetation of bare areas, installing flow diversion channels on consultation with an engineer, installing velocity reducing structures etc.	RoshSkor Township (Pty) Ltd
Solid Waste Management	To ensure that there is no illegal disposal of waste.	• No waste materials including domestic, organic waste shall be burnt on site. • Ensure that no refuse wastes are burnt on the premises or on surrounding premises. • No fires will be allowed on site.	RoshSkor Township (Pty) Ltd
Rehabilitation	When the site has reached capacity, all material, temporary structures, temporary fences, plant and equipment are completely removed from the site.	• Rehabilitation operations and re-vegetation of all disturbed areas shall commence as soon as possible and even run concurrently where appropriate.	RoshSkor Township (Pty) Ltd
Penalties	To ensure that environmental requirements are strictly adhered to.	Penalties will be issues for certain specified transgressions.	RoshSkor Township (Pty) Ltd

7 ENVIRONMENTAL MONITORING

7.1 MONITORING, REPORTING AND AUDITING

Monitoring measures during the operational phase is as follows:

- Monthly visual inspections must be conducted at the landfill site to check for any environmental incidences.
- Quarterly audit reports are to be prepared by the ECO or appointed Environmental consultant and submitted to the proponent, and MEFT: DEA.
- Any change in the scope of works during the operation of the landfill site must be documented and reported to the competent authority accordingly.

8 CONCLUSION

In conclusion it should be noted that this EMP should be regarded as a living document and changes should be made to the EMP as required by project evolution while retaining the underlying principles and objectives on which the document is based.

The compilation of the EMP has incorporated impacts and mitigation measures as well as incorporating principles of best practice in terms of environmental management.

In addition, provided the operational impacts for this project are mitigated as per the EMP, the project will result in impacts that should not negatively affect the environment.

It is the proponent's responsibility to ensure that this EMP is made a binding document on the contractor (Waste Removal) by including it in the contract documentation. The contractor should thoroughly familiarise himself with the requirements of the EMP and appoint an environmental Control Officer (ECO) to oversee the implementation of the EMP on a day-to-day basis.

Parties responsible for transgression of this EMP should be held responsible for any rehabilitation that may need to be undertaken. Parties responsible for environmental degradation through irresponsible behaviour/negligence should receive penalties.

APPENDIX A
Curriculum Vitae of Environmental Assessment Practitioner

APPENDIX B
Generic Method Statement Example

INFORMATION ON METHOD STATEMENTS

Method Statements are to be completed by the person undertaking the work (i.e. the Contractor). The Method Statement will enable the potential negative environmental impacts associated with the proposed activity to be assessed and potentially significant environmental aspects mitigated at the planning stage.

The Method Statement can only be implemented once approved by the ECO.

The Contractor (and, where relevant, any Sub-Contractors) must also sign the Method Statement, thereby indicating that the works will be carried out according to the methodology contained in the approved Method Statement.

The ECO will use the Method Statement to audit compliance by the Contractor with the requirements of the approved Method Statement.

Changes to the way the works are to be carried out must be reflected by amendments to the original approved Method Statement; amendments require the signature of the ECO, denoting that the changed methodology or works are necessary for the successful completion of the works, and are environmentally acceptable. The Contractor will also be required to sign the amended Method Statement thereby committing him/herself to the amended Method Statement.

This Method Statement MUST contain sufficient information and detail to enable the ECO to apply their minds to the potential impacts of the works on the environment. The Contractor will also need to thoroughly understand what is required of him/her in order to undertake the works. A method statement should clearly answer to following:

- What does the activity entail;
- Why is the activity required;
- When will it commence and how long;
- Where will the activity be undertaken;
- How will the activity be undertaken
  - What equipment and machinery will be required;
  - What materials (Chemicals) will be used in the process;
- What are the potential environmental, health and safety concerns associated with this activity and what mitigation measures will be employed to manage these risks.

The time taken to provide a thorough, detailed method statement is time well spent. Insufficient detail will result in delays to the works while the method statement is rewritten to ECO's satisfaction. The page overleaf provides a pro forma method statement sheet, which needs to be completed for each activity requiring a method statement in terms of the EMP.

EXAMPLE OF METHOD STATEMENT

CONTRACT: ……..……... DATE: ……..

PROPOSED ACTIVITY (give title of Method Statement and reference number):

WHAT WORK IS TO BE UNDERTAKEN (give a brief description of the works):

WHERE ARE THE WORKS TO BE UNDERTAKEN (where possible, provide an annotated plan and a full description of the extent of the works):

START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:

Start Date:	**End Date:**

HOW ARE THE WORKS TO BE UNDERTAKEN (provide as much detail as possible, including annotated maps and plans where possible): Note: please attach extra pages if more space is required

DECLARATIONS

1) ENVIRONMENTAL CONTROL OFFICER

The work described in this Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm:

_____ _____

(Signed) ***(Print name)***

_____ _____

(Signed) ***(Print name)***

Date: _____

2) PERSON UNDERTAKING THE WORKS

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the ECO will audit my compliance with the contents of this Method Statement:

_____ _____

(Signed) ***(Print name)***

Date: _____

3) ENGINEER

The works described in this Method Statement are approved:

_____ _____

(Signed) ***(Print name)***

Date: _____

4) APPROVING AUTHORITY

The works described in this Method Statement are approved:

_____ _____

(Signed) ***(Print name)***

Date: _____

APPENDIX C
Example of Incident and Environmental Log

AN EXAMPLE OF INCIDENT AND ENVIRONMENTAL LOG

ENVIRONMENTAL INCIDENT LOG				
Date	**Environment Condition**	**Comments**	**Corrective Action Taken** *(Give details and attach documentation as far as possible)*	**Signature**

APPENDIX D
Example of Waste Collection Registers

EXAMPLE OF WASTE COLLECTION REGISTER

Site	Time	Supplier Details	Waste Type	Approximate Quantities	Responsible Persons	Signature (Supplier)

APPENDIX E
Engineering Design of the Landfill Site