Tortoise Environmental Consultants(TEC)
One Step @ a time

VAT Number: 5728293015
Company Reg: cc/2012/2523

# ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

*(Source: Daniël Recycle Products of Namibia, 2025)*

## FOR THE OPERATION OF AN EXISTING RECYCLING FACILITY IN KEETMANSHOOP, //KARAS REGION.

*Prepared for:*

**Daniël Recycle Products of Namibia**

**August 2025**

+264 61 225 776 / +264 811 220 114
info@tec.com.na / www.tec.com.na
P.O.Box 35473, Kleine Kuppe, Windhoek
Unit 17, No. 40, Berg Street, Klein Windhoek, Windhoek, Namibia

| DOCUMENT INFORMATION | | |
|---|---|---|
| **Title** | Environmental and Social Management Plan (ESMP) for the operation of an existing recycling facility in Keetmanshoop, //Karas Region | |
| **ECC Application Reference number** | **APP- 00** | |
| **Listed Activity** | **Activity 2.** Waste Management, Treatment, Handling and Disposal Activities.<br>**2.3** The import, processing, use and recycling, temporary storage, transit or export of waste. | |
| **Location** | Steen Street No. 1, Keetmanshoop, //Karas Region | |
| **Proponent** | Mr. Daniël Casparus du Toit<br>Daniël Recycle Products of Namibia<br>P.O. Box 586, Keetmanshoop | |
| | **Signature** | **Date** |
| | | 21st August 2025 |
| **Author:** | **Signature** | **Date** |
| Ms. Lilian Ondigo (EAP)1 | | 21st August 2025 |
| **Reviewer:**<br>Mr. Jonas Heita (EAP) | | 21st August 2025 |

**Copy Right:**
*"This document is the intellectual property of TEC and may only be used for the intended purpose. Unauthorized use, duplication, plagiarism or copying without referencing is prohibited"*

*1 EAP – Environmental Assessment Practitioner*

## ACRONYMS

| | |
|---|---|
| DEA | Department of Environmental Affairs |
| EA | Environmental Assessment |
| EAP | Environmental Assessment Practitioner |
| ECC | Environmental Clearance Certificate |
| ECO | Environmental Compliance Officer |
| EIA | Environmental Impact Assessment |
| EMA | Environmental Management Act (No. 7 of 2007) |
| EMP | Environmental Management Plan |
| I&APs | Interested and Affected Parties |
| MEFT | Ministry of Environment, Forestry and Tourism |
| SM | Site Manager |
| TEC | Tortoise Environmental Consultant |

**TABLE OF CONTENTS**

1. INTRODUCTION ..... 1
1.1. Project Background ..... 1
1.2. Project Rationale ..... 1
1.3. Project Location ..... 1
2. Project Description ..... 3
2.1 Description of the project – Recycling ..... 3
2.2 Proposed project infrastructure ..... 6
2.2.1 Site Access and Internal Layout ..... 6
2.2.2 Material Receiving and Sorting Yard ..... 6
2.2.3 Processing Zone ..... 6
2.2.4 Storage Facilities ..... 6
3. ENVIRONMENTAL MANAGEMENT PLAN CONTEXT ..... 7
3.1 EMP Requirements ..... 7
3.2 What is an EMP? ..... 7
3.3 EMP Objective ..... 8
3.4 EMP Scope ..... 8
3.5 Possible adjustments to the EMP ..... 8
3.6 Implementation Framework and Accountability to the EMP ..... 9
4. ROLES AND RESPONSIBILITIES ..... 10
4.1 Roles and Responsibilities ..... 10
4.1.1 The Environmental Compliance Officer (ECO): ..... 10
4.1.2 The Proponent: ..... 11
4.1.3 The Site Manager: ..... 11
4.2 Instructions ..... 11
4.3 Disciplinary Actions ..... 12
5. POTENTIAL IMPACTS AND MITIGATION MEASURES ..... 13
5.1 Impact Themes and Recommended Mitigation Measures ..... 13
6. ENVIRONMENTAL PERFOMANCE MONITORING ..... 23

6.1 Environmental Performance Monitoring Plan - Overview ..... 23

6.2 Reporting and Documentation ..... 23

6.3 Auditing and Review ..... 23

7. DECOMMISSIONING PHASE ..... 32

8. CONCLUSION ..... 33

8.1 EMP requirements and Procedures ..... 33

8.2 Compliance to the EMP ..... 33

## FIGURES

Figure 1-1: Locality map of the proposed Recycling Facility ..... 2
Figure 2-1: Recycling activities onsite ..... 5

## TABLES

Table 3-1: EMP Requirements as outlined in Section 8 of the EIA Regulations..... 7
Table 3-2: Role players, Institutional Framework..... 9
Table 5-1: Identified socio-economic impacts..... 14
Table 5-2: Mitigation measures pertaining to staff Recruitment and Induction ..... 15
Table 5-3: Mitigation measures pertaining to Health and Safety..... 17
Table 5-4: Mitigation measures pertaining to Waste Management ..... 20
Table 5-5: Potential impacts and Mitigation measures pertaining to Rehabilitation..... 22
Table 6-1: Monitoring measures pertaining to staff Recruitment and Induction ..... 24
Table 6-2: Monitoring measures pertaining to Health and Safety ..... 26
Table 6-3: Monitoring measures pertaining to Waste Management..... 29

# 1. INTRODUCTION

## 1.1. Project Background

Daniël Recycle Products of Namibia (DRPN), formerly known as Recycled Products of Namibia cc, was established in 2014 in Keetmanshoop. The company plays a critical role in waste management by recycling materials such as heavy and light steel, non-ferrous metals (including aluminium and copper), batteries, and plastics (including polyethylene terephthalate and plastic bags) with the aim of reducing waste sent to landfills, promote environmental sustainability, and generate economic opportunities through recycling.

Daniël Recycle Products has appointed Tortoise Environmental Consultants to conduct an Environmental Assessment for the proposed recycling project. This Environmental Management Plan (EMP) outlines the anticipated environmental impacts of the project and serves as a guiding tool for decision-makers and stakeholders involved in its implementation.

## 1.2. Project Rationale

The rapid growth of urban centers and industries in Namibia has led to a significant increase in waste generation, placing immense pressure on landfills, municipal services, and the natural environment. Many waste materials, such as plastics, metals, and batteries, are either non-biodegradable or hazardous, and if not properly managed, they can contribute to soil contamination, water pollution, and greenhouse gas emissions.

At the same time, Namibia faces socio-economic challenges such as high unemployment, limited economic diversification, and over-reliance on resource extraction. Recycling presents a practical solution that addresses both the environmental and socio-economic dimensions of sustainable development. The rationale behind DRPN is to:

- Reduce the amount of waste that ends up in landfills, protect ecosystems, and promote a cleaner environment.
- Contribute towards Namibia's circular economy by turning waste into valuable resources, creating business opportunities, and reducing dependence on raw material imports.
- Create jobs for local people, especially the unemployed youth and women, while building awareness and community responsibility for sustainable waste management.

## 1.3. Project Location

The proposed recycling facility is located at Steen Street No. 1, Keetmanshoop, //Karas Region.

**GPS coordinates: Latitude -26. 587511 S and Longitude 18.135191 E**

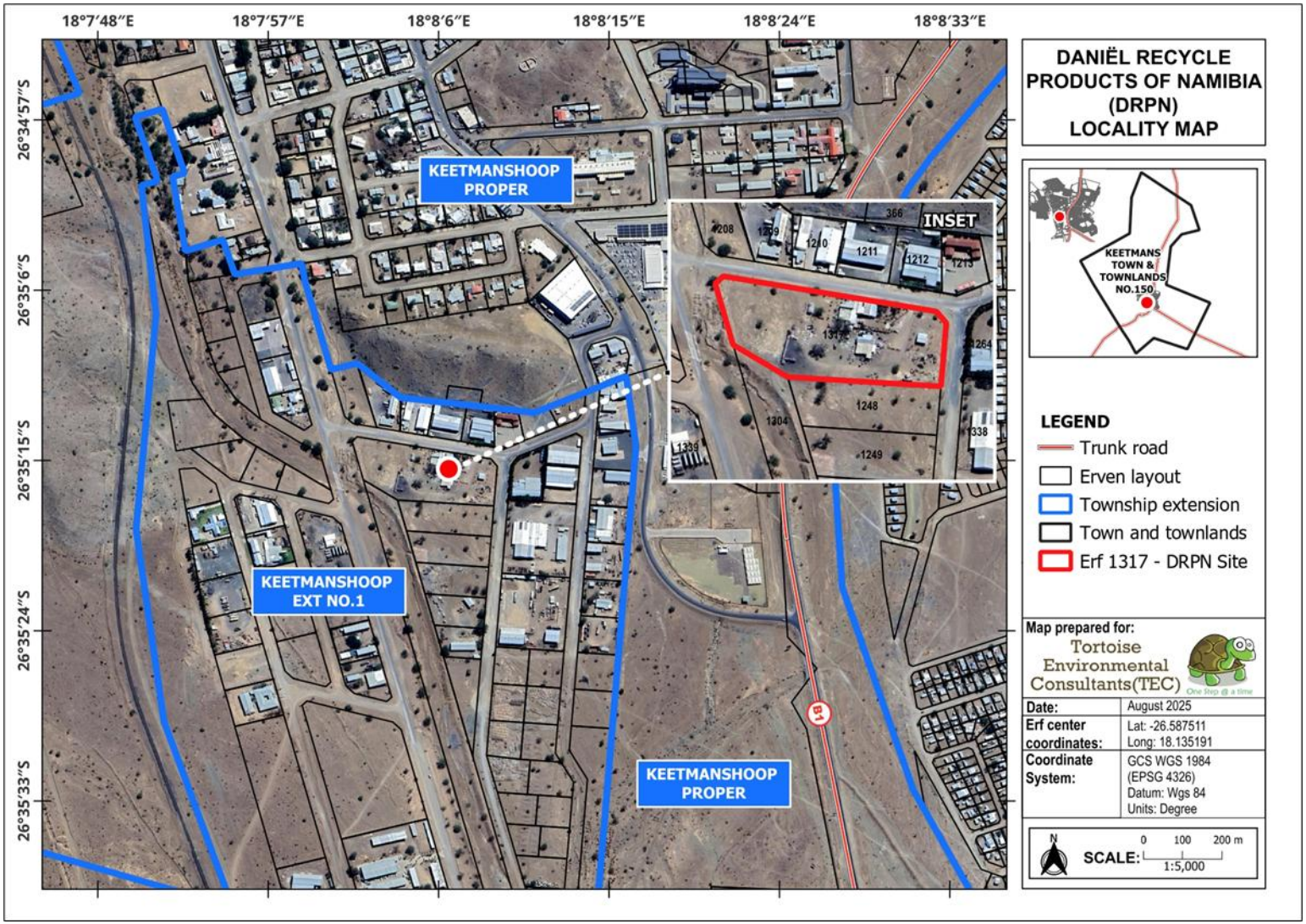


***Figure 1-1:*** *Locality map of the proposed Recycling Facility*

# 2. PROJECT DESCRIPTION

## 2.1 Description of the project – Recycling

Daniël Recycle Products is dedicated to recycling a diverse array of waste materials, particularly scrap metals, plastics, and used batteries. The process of scrap metal recycling involves systematically collecting and processing various metal types from multiple sources. It requires different techniques based on the metal's type, size, and composition.

Scrap metals are generally classified into two main categories: ferrous and non-ferrous. Ferrous metals contain iron and are typically magnetic, though the level of magnetism can vary by alloy. In contrast, non-ferrous metals, which do not contain iron and are non-magnetic, include widely recycled materials like copper, brass, aluminum, zinc, magnesium, tin, nickel, and lead. This category also encompasses precious metals such as gold, silver, and platinum, which have high market value, along with exotic metals containing rare elements like cobalt, titanium, tungsten, lithium, and vanadium—vital for green technologies and advanced industries.

In addition to metal recycling, DRPN actively recycles plastics and batteries. Plastics are collected from a variety of sources, including households, businesses, and industrial sites. They are sorted by polymer type, then cleaned and compacted for further processing. Battery recycling is another essential aspect of DRPN's operations, as it helps prevent hazardous materials like lead and acid from contaminating the environment while recovering valuable components for reuse in new products. By broadening its recycling efforts to encompass these materials, DRPN plays a crucial role in Namibia's shift towards a circular economy.

Onsite activities conducted by DRPN adhere to industry best practices and international guidelines (such as the Guidance for the Identification and Control of Safety and Health Hazards in Metal Scrap Recycling 2008), including:

- Receipt and Inspection of Materials: All incoming scrap metals, plastics, and batteries are received, weighed, and inspected to determine quality and suitability for recycling.

- Sorting and Classification: Materials are manually and mechanically sorted into categories such as ferrous and non-ferrous metals, different types of plastics, and various types of batteries. Sorting ensures efficiency and maximizes the recovery of valuable materials.

- Processing and Storage: Metals are cut, shredded, or compacted to reduce their size and prepare them for smelting or export. Plastics are compacted and baled, while batteries are safely dismantled and their components segregated. All materials are then stored under regulated conditions until they are transported for further processing.

**Figure 2-1:** Recycling activities onsite

## 2.2 Proposed project infrastructure

The proposed infrastructure will be designed to support efficient operations while ensuring health, safety, and environmental compliance. The infrastructure will be developed in phases and include the following key components:

### 2.2.1 Site Access and Internal Layout

- Secure entry and exit points.
- Designated circulation paths for trucks and equipment.

### 2.2.2 Material Receiving and Sorting Yard

- An open, hard-surfaced yard that serves as the primary receiving and sorting area for incoming material. This area will be demarcated into zones for:
  - Ferrous scrap
  - Non-ferrous scrap
  - Hazardous or suspect materials (e.g., batteries)
  - Plastic materials (e.g. Plastic bottles)

### 2.2.3 Processing Zone

- Area for dismantling, cutting, and compacting recyclables

### 2.2.4 Storage Facilities

- The Containers and stockpiles for different recyclables.
- Storage for hazardous materials pending safe collection.

# 3. ENVIRONMENTAL MANAGEMENT PLAN CONTEXT

This document constitutes the Environmental Management Plan (EMP) for the operation of an existing recycling facility in Keetmanshoop, //Karas Region.

## 3.1 EMP Requirements

The Environmental Management Act (also referred to as the EMA), stipulates that for each developmental project, which is listed under the EIA regulations, an Environmental Impact Assessment (EIA) should be conducted.

The EMP should conform to the provisions of the Environmental Management Act (EMA), Act No. 7 of 2007 and EIA regulations of 2012 (Government Notice: 30).

The EIA Regulations defines a '*Management Plan*' as:

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

***Table 3-1:*** *EMP Requirements as outlined in Section 8 of the EIA Regulations*

| ***Requirement*** |
|---|
| *(j) a draft management plan, which includes –*<br>*(aa) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;*<br><br>*(bb) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and*<br><br>*(cc) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.* |

## 3.2 What is an EMP?

The Environmental Management Plan (EMP) is a tool used to mitigate potential environmental risks associated with the proposed project/activity and provides a risk management strategy and logical framework for the implementation of the activities associated with the proposed project.

The EMP recommends mitigation measures in order to ensure that the proposed activities are conducted in an environmentally friendly manner and in accordance with the provisions of the Environmental Management Act and EIA regulations.

Furthermore, the EMP outlines specific roles and responsibilities for role-players against which they can be evaluated, and non-compliance is punishable.

### 3.3 EMP Objective

The objective of the EMP is to prevent/minimize (where possible), unacceptable and adverse environmental, social or economic impacts that may arise from the proposed development. Overall, the EMP aims to minimise negative impact/s (real, potential or perceived) that may result from the proposed road construction.

The objective of the EMP is to prevent / minimize, unacceptable and adverse environmental, social or economic impacts identified during the EIA process. Overall, the EMP aims to minimise negative impact/s (real, potential or perceived) that may result from the proposed activities, throughout the project lifespan.

The aim of the EMP is to ensure that the proposed activities are conducted in accordance with the following:

i. Environmental Management Act (No. 7 of 2007),
ii. EIA regulations of 2012 (GN: 30), and
iii. International standards, and
iv. Best environmental practices (benchmarks)

### 3.4 EMP Scope

The EMP not only focuses on, but is also not limited to, the proposed operation of an existing recycling facility. It encompasses the broader perspective and serves as a guiding tool for protecting the natural, biophysical, and socio-economic environment on both the specific site and the surrounding area. The bigger picture is important because some impacts may not be confined to the project site.

### 3.5 Possible adjustments to the EMP

The EMP is an open-ended document and may be considered inconclusive. In other words, the EMP should allow room for adjustments if new information becomes available at a later stage, in which new/additional mitigation measures may become necessary.

The necessity of possible adjustments to the EMP at a later stage may be attributed to:

a) Lack of information at the time of drafting the initial EMP,
b) Evolution or addition of new activities, or
c) Unintended omission of potential impacts during the initial EIA scoping exercise and development of the initial EMP.
d) Development of industry best practices.

This implies that, in addition to the information contained herein, any other relevant information that may surface during the operations through internal monitoring or auditing by the Environmental Compliance Officers (ECOs) can be added to the EMP (evolution of activities), and such changes or inclusions will be binding to the proponent.

### 3.6 Implementation Framework and Accountability to the EMP

For effective implementation of the EMP, the Institutional roles are presented below. However, the institutional framework, as well as the specific roles and responsibilities are defined and broken down in Sections 4.

***Table 3-2:*** *Role players, Institutional Framework*

| Role-player | Company / Institution | Role |
|---|---|---|
| Proponent | Daniël Recycle Products of Namibia | Compliance to the EMP |
| Environmental Consultant | Tortoise Environmental Consultants (TEC) | Development of the EMP |
| Environmental Compliance Officer/s (ECO) | Ministry of Environment, Forestry and Tourism – Department of Environmental Affairs (DEA) | Monitoring Compliance with EMP:<br>➢ Un-announced spot checks,<br>➢ Corrective measures, warnings, penalties/fines, license suspension, etc |
| Public | Interested and affected parties (I&APs) | Report to the ECO, any activity of environmental concern (e.g. Pollution, safety risks, etc.) |

# 4. ROLES AND RESPONSIBILITIES

This section outlines the roles and responsibilities of the key personnel responsible for the day-to-day management of activities to ensure effective implementation of the EMP.

## 4.1 Roles and Responsibilities

To ensure accountability, it is necessary to assign responsibilities. The key role-players for project implementation are;

a) The **Environmental Compliance Officer (ECO)** representing the Ministry of Environment, Forestry and Tourism (MEFT), or an appointed independent environmental officer, who is responsible for monitoring and auditing.

b) **The Proponent**: Owner / Project Manager.

c) **The Site Manager** the person responsible for the day-to-day management of the project.

### 4.1.1 The Environmental Compliance Officer (ECO):

The ECO refers to the party responsible for the environmental monitoring and auditing to ensure that the provisions of the EMP are complied with.

The ECO shall have adequate environmental knowledge to understand and interpret the EMP and pertaining environmental aspects associated with the project. The specific tasks of the ECO are as follows:

- To undertake all monitoring and auditing activities in-order to ensure compliance with the EMP.
- Conduct site inspection prior to the commencement of activities; and at reasonable intervals (e.g. every month, quarterly or annually), throughout the duration of the project. Depending on the risks, some projects may be inspected more frequently (e.g. every month).
- Conduct regular inspections (unannounced spot checks) and shall submit compliance or non-compliance reports to the respective authorities (MEFT or any other relevant authority).
- Compile Progress Reports immediately after site inspections, Compliance Reports, pertaining to any non-compliance incident/s, and a Rehabilitation Report following the conclusion a specific activity.
- The ECO shall liaise closely with all key stakeholders i.e. the Site Manager and the Environmental Commissioner.
- Shall provide guidance on any environmental management issues, incidents or emergencies that may arise throughout the project lifespan.
- Shall assist in providing recommendations for remedial action in the event of non-compliance.
- Auditing or monitoring activities may involve investigation, as well as structured observation, measurement, and evaluation of environmental data over a period of time.

### 4.1.2 The Proponent:

The specific responsibilities of the Proponent are as follows:

- Appoint a Project Manager (PM) to oversee the daily onsite activities.
- Liaise closely with the PM and ECO on any environmental management issues, incidents or emergencies.
- Ensure that all activities on and around the site are conducted in accordance with the requirements of the EMP at all times.
- Ensure that all sub-contractors and visitors to the site are conversant with the requirement of the EMP, relevant to their roles on site.
- Shall develop a **communication strategy** between The Proponent, Site Manager, workers, the ECO and any other relevant stakeholder.
- Shall develop an **organisational structure** to ensure that:
  - There are clear channels of communication;
  - There is an organisational hierarchy for effective implementation of the EMP; and
  - Conflicting or contradictory instructions are eliminated;
  - Ensure that all instructions and official communications regarding environmental matters shall follow the organisational structure as determined
  - Ensure that that EMP requirements are assigned to specific people / positions with the capacity and experience required for implementation.

### 4.1.3 The Site Manager:

The **Site Manager (SM)** should:

- Ensure that each team recruited to work at the sites, adheres to the EMP;
- Ensure that a **copy of the EMP is kept on site at all times and as it may be requested by authorities conducting spot checks at any time**.
- Ensure that all staff attend an induction session before the commencement of any work on site and that they are adequately informed of the requirements of the EMP;
- Shall take special care to prevent irreversible damage to the environment;
- Ensure that activities are within the boundaries of the proposed zones as specified in the Site Map and boundary markings (visible pegs, tape etc).
- Accident/ Incident reporting to Proponent within 24 hours of occurrence
- Ensure that staff is controlled through the implementation of appropriate security measures,

## 4.2 Instructions

All instructions and official communications shall follow the organizational structure as determined by the proponent. Based on the adopted structure, it is essential that the responsibilities outlined be assigned to specific parties with adequate capacity and experience required to implement the EMP.

### 4.3 Disciplinary Actions

The EMP is a legally binding document. Non-compliance with the EMP may result in disciplinary action being taken against the Proponent. Such actions may take the form of;

- Financial penalties, legal action, fines, and/ or Suspension of work.

The disciplinary actions shall be determined according to the nature and extend of the non-compliance, and exact penalties are to be weighed against the severity of the incident.

# 5. POTENTIAL IMPACTS AND MITIGATION MEASURES

## 5.1 Impact Themes and Recommended Mitigation Measures

The EMP has been categorised into different themes, which serve as a quick guide to the recommended EMP remedial actions during the operation stage (Tables 5-1 – 5-5).

| EMP Themes | Specific Aspects |
|---|---|
| **A – Socio-economic Impacts** | Employment |
| | Local economy |
| **B – Staff induction** | EMP availability |
| | Staff induction |
| | Recruitment |
| **C – Health and Safety** | General safety at workplace |
| | Alcohol abuse and Drug use |
| | Fire Risk / Hazard |
| | Noise |
| | Dust / Air Pollution |
| **D – Pollution and Waste Management** | Waste Water |
| | Ablution facilities |
| | Waste generation |
| **E - Rehabilitation** | Clean up and maintain natural/original appeal |

## SECTION A: SOCIO – ECONOMIC

***Table 5-1:*** *Identified socio-economic impacts*

| **Potential Impacts:**<br><br>✓ New employment opportunities (both during construction and operation of the project)<br>✓ Rural development | | | | |
|---|---|---|---|---|
| **Aspect** | **Objective** | **Measures to enhance positive impacts** | **Indicators for Monitoring and Compliance** | **Responsible Party** |
| **Employment** | Create job opportunities for locals and improve livelihoods. | • Adopt a local first policy to ensure that all general work is reserved for local people unless in circumstances where specialised skills are required.<br>• Employ local contractors.<br>• Fair compensation and labour practise as per Namibian Labour Laws must be followed.<br>• The recruitment process must be formal and organised. | • Employee structure and proportion of local employment | Proponent or Site Manager |
| **Local economy** | Promote local economic development through waste management and recycling activities | • Support local scrap suppliers and informal waste collectors through fair purchasing practices.<br>• Encourage employment and skills development within the facility.<br>• Maintain access roads to support transportation of materials. | • Number of local suppliers engaged<br>• Number of jobs created or sustained<br>• Volume of scrap metal processed and sold | Proponent or Site Manager |

## SECTION B: STAFF INDUCTION

***Table 5-2:*** *Mitigation measures pertaining to staff Recruitment and Induction*

**Potential Sources of Impacts:**

- ✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities/actions
- ✓ Lack of adequate induction to inform the workers about the Do's and Don'ts
- ✓ Employees working without employment contracts (recipe for labour disputes)

| Aspect | Objective | Mitigation Measures | Indicators for Monitoring and Compliance | Responsible Party |
|---|---|---|---|---|
| **EMP availability** | Availability of the EMP on site for ease of reference | • Ensure that a copy of the EMP is kept on site and accessible to team leaders | • Availability of EMP on site and accessibility to team leaders | Site Manager |
| **Staff Induction** | To ensure that all staff/employees are conversant with the requirements of the EMP | • Induction for all staff/employees on the provisions of the EMP before work commencement.<br>• Staff members appointed at a later stage should also undergo induction | • Induction Minutes and Attendance Register, Signed by each staff member<br>• Quarterly minutes | Site Manager |
| | Punitive measures for staff, to ensure compliance | • Adopt a disciplinary system to discipline staff for non-compliance, for offences such as littering, speeding, safety risk (both to themselves and to others), not using ablution facilities, etc. | • Number of fines issued daily / per month | Site Manager |
| | Orientation of workers about security for both equipment and themselves | • Orientate workers about security for equipment and themselves & provide contact numbers for Police and other emergency services e.g. Ambulance | • Proof of security orientation and emergency contact numbers | Site Manager |

| | | | | |
|---|---|---|---|---|
| **Recruitment** | • To ensure that all workers have employment contracts (Labour Act No. 11 of 2007)<br><br>• To ensure adherence to Labour Act No. 11 of 2007 during all phases of the project | • Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later. | • Copy of staff contracts | Proponent or Site Manager |

## SECTION C: OCCUPATIONAL HEALTH AND SAFETY

***Table 5-3:*** *Mitigation measures pertaining to Health and Safety*

**Potential Sources of Impacts:**

- ✓ Inadequate awareness of employees or contractors on general health and safety risks
- ✓ Safety hazards associated with the equipment handling
- ✓ Employees not receiving the correct Personal Protective Equipment (PPE)
- ✓ Employees not adhering to safety rules implemented at the site

| Aspect | Objective | Mitigation Measures | Indicators for Monitoring and Compliance | Responsible Party |
|---|---|---|---|---|
| **General Occupational Health and Safety of the employees (injuries)** | To ensure safe working conditions per Health and Safety Regulations, Government Notice 156/1997 (GG 1617) | • Provide adequate and appropriate personal protective equipment for all workers<br>• Training on relevant aspects of occupational health and safety. | • Adequate protective gear for all staff (issue register)<br>• Training schedule, attendance register, report, pictures, etc | Site Manager |
| **Alcohol abuse and Drug use** | Prevent alcohol and drug use at the project site | • Warn employees against alcohol abuse and use of prohibited substances e.g drugs. | • Drunk / Misbehaving employees<br>• Monitor presence of prohibited substances. | Site Manager |
| **Fire Risk / Hazard** | To mitigate fire risk | • Avail sufficient fire extinguishers and train staff on how to use them<br>• Demonstrate the use of fire extinguishers and fire hydrants, | • Availability of fire extinguishers and service record.<br>• Training report, attendance register, pictures, etc | Site Manager |

| | | | | |
|---|---|---|---|---|
| **Noise** | To reduce noise in the surrounding environment | • Ensure that the scrap metals compacting machine engine must be off when not in use;<br>• Purchase/hire scrap metals compacting equipment with low noise emission;<br>• Where possible, fit silencers on vehicle equipment;<br>• Operation must be limited to daytime only (08h00-17h00); | • Record of public complaints | Proponent or Site Manager |
| **Dust / Air Pollution** | Reduction of dust from the scrap metals facility | • Avoid compacting metals during heavy windy conditions.<br>• The scrap metals compacting area and its immediate surrounding must be entirely inter- locked to avoid wind condition;<br>• Heap of scrap metals must be arranged in an orderly manner;<br>• Workers must not be exposed to excess dust and should be provided with appropriate PPE such as dust musk and earmuffs;<br>• Adhere to the Labour act, non-toxic human dust exposure levels may not exceed 5mg/m3 for respiratory dust and 15mg/m3 for total dust;<br>• Dust monitoring should be established before operations commence to measure baseline conditions. It should remain active | • Record of public complain | Proponent or Site Manager |

| | | | | |
|---|---|---|---|---|
| | | throughout the life of the scrap metals handling facility as well as for a few years post-closure to determine the effectiveness of the<br>• mitigation measures. | | |

## SECTION D: POLLUTION CONTROL AND WASTE MANAGEMENT

***Table 5-4:*** *Mitigation measures pertaining to Waste Management*

| **Potential Sources of Impacts:**<br><br>✓ Poor waste disposal (often considered insignificant e.g. littering, oil spills, wash, wastewater, etc<br>✓ Leaking or broken sewerage pipes<br>✓ Storage of unwanted waste (e.g. old / waste tyres) | | | | |
|---|---|---|---|---|
| **Aspect** | **Objective** | **Mitigation Measures** | **Indicators for Monitoring and Compliance** | **Responsible Party** |
| **Waste Water** | • To avoid effluent discharge into the environment | • Refer to regulations on effluent disposal and recommended septic tank and drainage design<br>• Be on the look-out and repair any leaking or broken sewer pipes (regardless of how small it may be perceived) | • No leakage of sewer pipes | Site Manager or dedicated Plumber |
| **Ablution facilities** | • To avoid open defecation, environmental pollution and washing of faecal waste into water streams | • Recommend Flushing toilets with provision of a septic tank, honey sucked for disposal at approved oxidation ponds | • Ablution facilities (Flushing toilets) | Site Manager |
| **Waste generation** | • To prevent pollution and maintain a clean environment | • The recycling facility site must have adequate wheelie bins and skip containers for onsite waste disposal;<br>• The waste must be segregated and be disposed of at an approved and designated municipality of Windhoek disposal landfills; | • Waste bins and skip containers | Site Manager / dedicated Waste Disposal Officer |

| | | | | |
|---|---|---|---|---|
| | | • No waste should be buried on site or anywhere in the surrounding;<br>• Acts of secretion in the open must never be allowed.<br>• No waste may be buried, burned or disposed to land onsite, outside of the approved waste disposal facility.<br>• Waste containers (bins) should be emptied regularly and removed from site to a recognized and designated municipal waste disposal site.<br>• Enough separate waste containers (bins) for hazardous and<br>• domestic/general waste must be provided on site. The waste bins should be clearly marked as such.<br>• The recycling facility employees as well as contractors should be sensitized to dispose of waste in a responsible manner and not to litter.<br>• No waste may remain scattered at the facility. | • Visible clean site<br>• Record of effluent disposal | |

## SECTION E: REHABILITATION

***Table 5-5:*** *Potential impacts and Mitigation measures pertaining to Rehabilitation*

| **Sources of impacts**:<br><br>✓ Waste (Left over of broken equipment, material offcuts etc) | | | | |
|---|---|---|---|---|
| **Impact Description** | **Objective** | **Mitigation Measures/** | **Indicators for Monitoring and Compliance** | **Responsible Party** |
| Waste discarded all over the place | Clean-up | Remove any foreign objects (including infrastructure), that is not needed at site upon project completion | Clean-up after project closure | Site Manager |

# 6. ENVIRONMENTAL PERFOMANCE MONITORING

## 6.1 Environmental Performance Monitoring Plan - Overview

The purpose of this Environmental Performance Monitoring Plan is to ensure that the operational activities of the feedlot are conducted in compliance with the Environmental Management Plan (EMP), relevant environmental legislation, and best environmental practices.

**Objectives:**

- To ensure compliance with the EMP, Environmental Clearance Certificate (ECC), and applicable regulations.
- To assess the effectiveness of mitigation measures implemented.
- To ensure that environmental impacts are identified and managed proactively.
- To maintain accurate records for reporting and auditing purposes.

## 6.2 Reporting and Documentation

Bi-annual Reports will be compiled by the ECO or an appointed consultant and submitted to the Ministry of Environment, Forestry and Tourism (MEFT).

The report will include:

- Summary of monitoring results.
- Non-compliance incidents and corrective measures taken.
- Photographic evidence and data logs.
- Recommendations for improvement.

All monitoring data and reports will be stored on-site and made available during audits or inspections.

## 6.3 Auditing and Review

Internal audits will be conducted annually to assess the EMP implementation. The Environmental Monitoring Plan will be reviewed and updated as needed, based on audit findings, regulatory changes, or operational adjustments.

# DATA SHEET
## Monitoring / Environmental Audit Report

## SECTION A: STAFF INDUCTION

***Table 6-1:*** *Monitoring measures pertaining to staff Recruitment and Induction*

**Potential Sources of Impacts:**

- ✓ No formal presentation of the EMP and employees are not aware of the content and risks associated with the activities/actions
- ✓ Lack of adequate induction to inform the workers about the Do's and Don'ts
- ✓ Employees working without employment contracts (recipe for labour disputes)

| Aspect | Objective | Mitigation Measures | Indicators for Monitoring and Compliance | Comment + Evidence (Pictures) |
|---|---|---|---|---|
| **EMP availability** | Availability of the EMP on site for ease of reference | • Ensure that a copy of the EMP is kept on site and accessible to team leaders | • Availability of EMP on site and accessibility to team leaders | |
| **Staff Induction** | To ensure that all staff/employees are conversant with the requirements of the EMP | • Induction for all staff/employees on the provisions of the EMP before work commencement.<br>• Staff members appointed at a later stage should also undergo induction | • Induction Minutes and Attendance Register, Signed by each staff member<br>• Quarterly minutes | |
| | Punitive measures for staff, to ensure compliance | • Adopt a disciplinary system to discipline staff for non-compliance, for offences such as littering, speeding, safety risk (both to | • Number of fines issued daily / per month | |

| | | | | |
|---|---|---|---|---|
| | | themselves and to others), not using ablution facilities, etc. | | |
| | Orientation of workers about security for both equipment and themselves | • Orientate workers about security for equipment and themselves & provide contact numbers for Police and other emergency services e.g. Ambulance | • Proof of security orientation and emergency contact numbers | |
| **Recruitment** | • To ensure that all workers have employment contracts (Labour Act No. 11 of 2007)<br><br>• To ensure adherence to Labour Act No. 11 of 2007 during all phases of the project | • Formalize recruitment of all staff with Contracts, stating nature of employment, duration and remuneration to protect both parties and to avoid labour disputes later. | • Copy of staff contracts | |

## SECTION B: OCCUPATIONAL HEALTH AND SAFETY

***Table 6-2:*** *Monitoring measures pertaining to Health and Safety*

**Potential Sources of Impacts:**

- ✓ Inadequate awareness of employees or contractors on general health and safety risks
- ✓ Safety hazards associated with the equipment handling
- ✓ Employees not receiving the correct Personal Protective Equipment (PPE)
- ✓ Employees not adhering to safety rules implemented at the site

| Aspect | Objective | Mitigation Measures | Indicators for Monitoring and Compliance | Comment + Evidence (Pictures) |
|---|---|---|---|---|
| **General Occupational Health and Safety of the employees (injuries)** | To ensure safe working conditions per Health and Safety Regulations, Government Notice 156/1997 (GG 1617) | • Provide adequate and appropriate personal protective equipment for all workers<br>• Training on relevant aspects of occupational health and safety. | • Adequate protective gear for all staff (issue register)<br>• Training schedule, attendance register, report, pictures, etc | |
| **Alcohol abuse and Drug use** | Prevent alcohol and drug use at the project site | • Warn employees against alcohol abuse and use of prohibited substances e.g drugs. | • Drunk / Misbehaving employees<br>• Monitor presence of prohibited substances. | |
| **Fire Risk / Hazard** | To mitigate fire risk | • Avail sufficient fire extinguishers and train staff on how to use them | • Availability of fire extinguishers and service record. | |

| | | | | |
|---|---|---|---|---|
| | | • Demonstrate the use of fire extinguishers and fire hydrants, | • Training report, attendance register, pictures, etc | |
| **Noise** | To reduce noise in the surrounding environment | • Ensure that the scrap metals compacting machine engine must be off when not in use;<br>• Purchase/hire scrap metals compacting equipment with low noise emission;<br>• Where possible, fit silencers on vehicle equipment;<br>• Operation must be limited to daytime only (08h00-17h00); | • Record of public complaints | |
| **Dust / Air Pollution** | Reduction of dust from the scrap metals facility | • Avoid compacting metals during heavy windy conditions.<br>• The scrap metals compacting area and its immediate surrounding must be entirely inter-locked to avoid wind condition;<br>• Heap of scrap metals must be arranged in an orderly manner; | • Record of public complain | |

| | | | | |
|---|---|---|---|---|
| | | • Workers must not be exposed to excess dust and should be provided with appropriate PPE such as dust musk and earmuffs;<br>• Adhere to the Labour act, non-toxic human dust exposure levels may not exceed 5mg/m3 for respiratory dust and 15mg/m3 for total dust;<br>• Dust monitoring should be established before operations commence to measure baseline conditions. It should remain active throughout the life of the scrap metals handling facility as well as for a few years post-closure to determine the effectiveness of the<br>• mitigation measures. | | |

## SECTION C: POLLUTION CONTROL AND WASTE MANAGEMENT

***Table 6-3:*** *Monitoring measures pertaining to Waste Management*

| **Potential Sources of Impacts:**<br><br>✓ Poor waste disposal (often considered insignificant e.g. littering, oil spills, cement mixers, wash, wastewater, etc<br>✓ Leaking or broken sewerage pipes<br>✓ Storage of unwanted waste (e.g. old / waste tyres) | | | | |
|---|---|---|---|---|
| **Aspect** | **Objective** | **Mitigation Measures** | **Indicators for Monitoring and Compliance** | **Comment + Evidence (Pictures)** |
| **Waste Water** | • To avoid effluent discharge into the environment | • Refer to regulations on effluent disposal and recommended septic tank and drainage design<br>• Be on the look-out and repair any leaking or broken sewer pipes (regardless of how small it may be perceived) | • No leakage of sewer pipes | |
| **Ablution facilities** | • To avoid open defecation, environmental pollution and washing of faecal waste into water streams | • Recommend Flushing toilets with provision of a septic tank, honey sucked for disposal at approved oxidation ponds | • Ablution facilities (Flushing toilets) | |
| **Waste generation** | • To prevent pollution and | • The recycling facility site must have adequate | • Waste bins and skip containers | |

| | | | | |
|---|---|---|---|---|
| | maintain a clean environment | wheelie bins and skip containers for onsite waste disposal;<br>• The waste must be segregated and be disposed of at an approved and designated municipality of Windhoek disposal landfills;<br>• No waste should be buried on site or anywhere in the surrounding;<br>• Acts of secretion in the open must never be allowed.<br>• No waste may be buried, burned or disposed to land onsite, outside of the approved waste disposal facility.<br>• Waste containers (bins) should be emptied regularly and removed from site to a recognized and designated municipal waste disposal site.<br>• Enough separate waste containers (bins) for hazardous and<br>• domestic/general waste must be provided on site. | • Visible clean site<br>• Record of effluent disposal | |

| | | | | |
|---|---|---|---|---|
| | | The waste bins should be clearly marked as such.<br>• The recycling facility employees as well as contractors should be sensitized to dispose of waste in a responsible manner and not to litter.<br>• No waste may remain scattered at the facility. | | |

## 7. DECOMMISSIONING PHASE

The proposed development aims to remove various types of waste from the environment, specifically focusing on scrap metals, both heavy and light steel, non-ferrous metals such as aluminum and copper, batteries, and plastics, including polyethylene terephthalate and plastic bags. This initiative is designed to significantly enhance environmental protection in Keetmanshoop and reduce the volume of recyclable materials that currently end up in landfills.

Recycling these materials is essential for promoting sustainable resource management and creating economic opportunities for local communities. Given the substantial quantities of scrap metals in Keetmanshoop and its surrounding areas, it is unlikely that the project will be decommissioned in the near future. However, if decommissioning becomes necessary at any point, all required applications will be submitted to the relevant authorities to ensure compliance with regulations.

The decommissioning plan must be developed by a competent person with the necessary experience on the project, and all relevant authority should be consulted. Therefore, the project proponent must implement the following mitigation measures:

- The proponent must submit a decommissioning plan to the office of the Environmental Commissioner for approval.
- Install signs to inform the public about the decommissioning of the project.
- Access to the areas must be controlled.
- A qualified project engineer must be hired to oversee the project decommissioning.
- Hire an environmental specialist to monitor possible contamination during decommissioning.
- Ensure that the entire area is rehabilitated.
- Provide workers with all necessary PPE.
- Generated waste must be disposed of at approved sites.
- When contamination is detected, the soil must be removed and treated before disposing it off to an approved site.
- The site must be completely rehabilitated and blend in with its natural state.

# 8. CONCLUSION

## 8.1 EMP requirements and Procedures

The aim of the EMP is to ensure legal compliance to prevent environmental fatal flaws. Various best practice and mitigation measures have been identified to avoid and reduce effects as far as reasonably practicable across the proposed project, as well as ensure the environment is protected and unforeseen effects are avoided.

On condition that mitigation measures specified in this EMP are fully implemented, an Environmental Clearance Certificate (ECC) is recommended.

However, Non-compliance is punishable.

The key role-players are defined under section 4 should:

- ***Read*** the ESMP (particularly the Project Manager) and ensure that they are fully conversant with provisions of the EMP,
- If need be, ***Ask for clarity*** from the Environmental Assessment Practitioner (EAP), Environmental Compliance Officer (ECO) or relevant authority,
- Ensure implementation of the recommended mitigation measures, and
- Communicate defaults / challenges to the ECO as soon as possible.

The ECO should monitor (conduct periodic and unannounced EMP audits) in-order to ensure compliance against the recommended mitigation measures.

## 8.2 Compliance to the EMP

Once approved by the Environmental Commissioner, EMP become binding to the proponent. This implies that each and every entity that may have any kind of engagement or involved in / with the proposed project activities ought to familiarise themselves with the mitigations measures as outlined in the ESMP, as these as part of the license conditions.