ECC

ENVIRONMENTAL
COMPLIANCE CONSULTANCY

ECC DOCUMENT CONTROL: ECC-110-305-REP-05-D

ENVIRONMENTAL MANAGEMENT PLAN

CHARCOAL AND BRIQUETTE PROCESSING AND PACKAGING FACILITY IN WITVLEI, OMAHEKE REGION, NAMIBIA

PREPARED FOR NAMCHAR NAMIBIA

NAM·CHAR namibia

SEPTEMBER 2020

PO BOX 91193 Windhoek Namibia
Environmental Compliance Consultancy CC
CC/2013/11404

TITLE AND APPROVAL PAGE

Project Name:	Namchar charcoal and briquette storage, processing and packaging facility in Witvlei, Omaheke Region, Namibia
ECC Reference:	ECC-110-305-REP-05-D
Client Name:	Kaipie Investments Twenty One (Pty) Ltd T/A Namchar Namibia
Ministry Reference:	N/A
Status of Report:	Final Submitted
Date of issue:	September 2020
Review Period	N/A

Environmental Compliance Consultancy Contact Details:
We welcome any enquiries regarding this document and its content please contact:

Stephan Bezuidenhout
Environmental Consultant & Practitioner
Tel: +264 81 669 7608
Email: stephan@eccenvironmental.com
www.eccenvironmental.com

Jessica Mooney - Bezuidenhout
Environmental Consultant & Practitioner
Tel: +264 81 669 7608
Email: jessica@eccenvironmental.com
www.eccenvironmental.com

Confidentiality
Environmental Compliance Consultancy Notice: This document is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this document in error, please notify us immediately by return email and delete the document and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of Environmental Compliance Consultancy.

Please note at ECC we care about lessening our footprint on the environment; therefore, all documents are printed double sided.

TABLE OF CONTENTS

1 INTRODUCTION 5
1.1 BACKGROUND DESCRIPTION 5
1.2 THE PROPONENT OF THE PROJECT 7
1.3 ENVIRONMENTAL REGULATORY REQUIREMENTS 7
1.4 PURPOSE AND SCOPE OF THIS EMP 7
1.5 MANAGEMENT OF THIS EMP 7
1.6 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP 7
1.7 ENVIRONMENTAL CONSULTANCY 8
2 PROJECT MANAGEMENT PERSONNEL 9
2.1 ORGANISATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES 9
2.2 GENERAL MANAGER 9
2.3 EMPLOYMENT 11
3 COMMUNICATIONS AND TRAINING 12
3.1 COMMUNICATIONS 12
3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE 12
3.3 COMPLAINTS HANDLING AND RECORDING 13
3.4 TRAINING AND AWARENESS 13
3.5 SITE INDUCTION 13
4 REPORTING, COMPLIANCE, AND ENFORCEMENT 14
4.1 ENVIRONMENTAL INSPECTIONS & COMPLIANCE MONITORING 14
4.2 NON-COMPLIANCE 14
4.3 INCIDENT REPORTING 14
4.4 DISCIPLINARY ACTION 15
5 ENVIRONMENTAL AND SOCIAL MANAGEMENT 16
5.1 OBJECTIVES AND TARGETS 16
6 ENVIRONMENTAL MANAGEMENT MEASURES 16
6.1 ENVIRONMENTAL PERMITS 16
6.2 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES 17
7 IMPLEMENTATION OF THE EMP 25
APPENDIX A - APPLICATION FOR A WASTEWATER DISCHARGE LICENCE 26
APPENDIX B - REPORTING OF MAJOR PETROLEUM PRODUCT SPILL FORM PP/11 33
APPENDIX C - TEMPLATE FOR MONITORING 35
APPENDIX D - COMPLAINTS REGISTER TEMPLATE 37
APPENDIX E - MONTHLY INTERNAL COMPLIANCE CERTIFICATE 38

TABLES

TABLE 1 - PROPONENT DETAILS 7
TABLE 2 - KEY ROLES AND THEIR RESPONSIBILITIES 9
TABLE 3 - EMERGENCY SERVICES CONTACT TELEPHONE NUMBERS 12
TABLE 4 - ENVIRONMENTAL RISKS AND ISSUES, MITIGATION AND MONITORING MEASURES 18

FIGURES

FIGURE 1 – A MAP INDICATING THE NAMCHAR FACILITY SITE 6

DEFINITIONS AND ABBREVIATIONS

BSCI	Business Social Compliance Initiative
COC	Chain of Custody
ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMA	Environmental Management Act, 2007
EMP	Environmental Management Plan
FSC	Forest Stewardship Council
MAWL	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment Forestry and Tourism
MME	Ministry of Mines and Energy
NCA	Namibia Charcoal Association
MSDS	Material Safety Data Sheet
PPE	Personal Protective Equipment
SHE	Safety Health Environmental

1 INTRODUCTION

1.1 BACKGROUND DESCRIPTION

Namchar Namibia (herein referred to as Namchar) is an existing and operational charcoal facility, located in Witvlei, Omaheke Region, Namibia. The brand Namchar was established in 1996 and bought over in 2003. The brand has been growing exponentially and currently has a market share of almost 65% in the Western Cape Province of South Africa. In Namibia, the project activities at the Namchar facility include, the continuous operations of the facility and possible construction of a weighbridge in the future. The facility's current operational activities include the sourcing of raw material (charcoal) exclusively from Namibian charcoal producers and from farms in the surrounding area.

Namchar sources their charcoal from suppliers, then screen and segregate the charcoal, process charcoal fines into briquettes then store and pack charcoal and briquettes for distribution.

Namchar produces charcoal exclusively from invader bushes, which consists of hardwoods that produces a high-quality charcoal with a high calorific value, emits few sparks, and produces very little ash. Different grades of charcoal products are packed in the volumes and quantities according to market demand and distributed to the retail outlets through various distribution channels.

Namchar ensures that all its suppliers adhere to the Namibian government's strict forestry regulations and is a proud member of the Namibian Charcoal Association (NCA), which was formed to formalize and strengthen the charcoal industry, supporting the needs of its role players in the industry. Through this aspect social, economic and environmental issues of the entire production chain are emphasized.

Furthermore, Namchar contributes to the socio-economic and natural environment through continued dedication to the production of an environmentally sustainable product. The Namchar facility is located approximately 1 km north of Witvlei on a portion of Farm Okatjirute No. 155, Omaheke Region, Namibia (Figure 1).

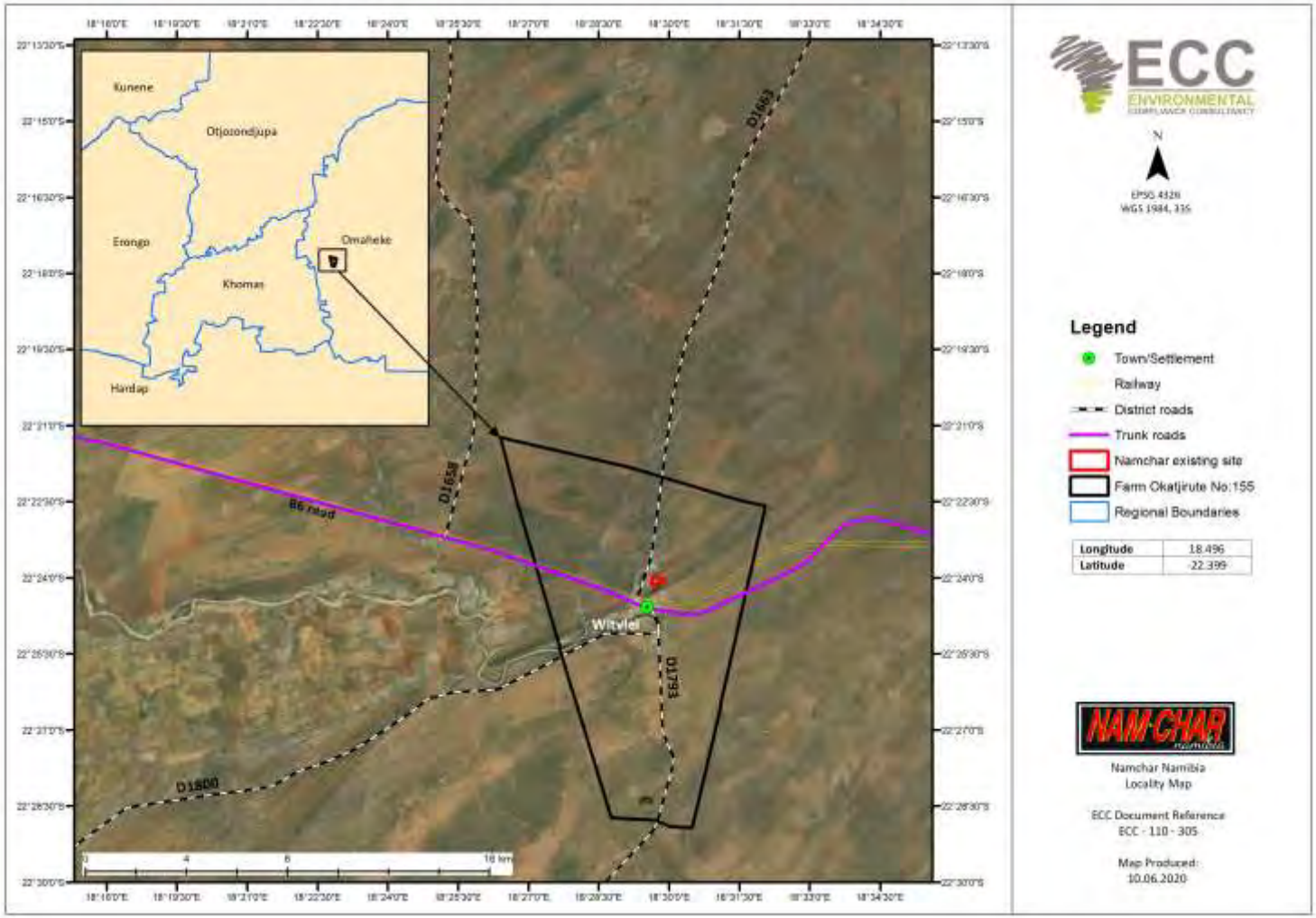

FIGURE 1 – A MAP INDICATING THE NAMCHAR FACILITY SITE

1.2 THE PROPONENT OF THE PROJECT

Namchar charcoal factory and briquette plant has been in operation since its establishment in 1996. The proponent details are indicated in Table 1.

TABLE 1 - PROPONENT DETAILS

NAME	ADDRESS	E-MAIL	TELEPHONE
Mr Francois Wiese	P O Box 64, Witvlei, Namibia	namibia@namchar.co.za	+264 81 377 8746

1.3 ENVIRONMENTAL REGULATORY REQUIREMENTS

The Namchar charcoal factory and briquette plant predates the implementation and development of the Environmental Management Act (EMA) 2007. Facilities predating the EMA are required to ensure potential environmental risks and impacts are minimised and managed, through the development and implementation of a site-specific Environmental Management Plan (EMP). Namchar ensures compliance with legislation and standards applicable to the factory. The pertinent legislation and standards which may be applicable on the project, are included in the assessment report submitted with this EMP.

1.4 PURPOSE AND SCOPE OF THIS EMP

The purpose of this EMP is to provide a management framework for the project activities so that the potential environmental impacts identified through the assessment process are avoided, minimised and mitigated as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

This EMP also presents protocols, procedures, roles and responsibilities to ensure the management arrangements are appropriately and effectively implemented. This EMP forms an appendix to the environmental assessment report and has been based on the findings of the assessment; therefore, the environmental assessment report should be referred to for further information on the project, assessment methodology, applicable legislation, and assessment findings.

This EMP is a live document and shall be reviewed at predetermined intervals, and/or updated to reflect material changes to the operations and to allow for continual improvement. All personnel working in the facility are legally required to comply with the standards set out in this EMP.

1.5 MANAGEMENT OF THIS EMP

The proponent will hold the environmental clearance certificate for the factory and shall be responsible for the implementation and management of this EMP. The implementation and management of this EMP and thus the monitoring of compliance shall be undertaken through daily duties or activities and monthly inspections, incorporated into the daily tasks for the employees at the factory.

1.6 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP

This EMP does not include measures for compliance with statutory occupational health and safety requirements. This will be provided in the health and safety management plan to be developed by the

proponent. Where there is any conflict between the provisions of this EMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines, and relevant laws), the contract and statutory requirements are to take precedence.

The information contained in this EMP has been based on the project description as provided in the environmental assessment report. Where the activities method alters, this EMP may require updating and potential further assessment to be undertaken.

1.7 ENVIRONMENTAL CONSULTANCY

Environmental Compliance Consultancy (ECC), a Namibian consultancy registration number 2013/11401, has prepared this EMP on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in the public and private sectors. ECC is independent of the proponent and has no vested or financial interest in the project except for fair remuneration for professional services rendered. All compliance and regulatory requirements regarding this document should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy
PO BOX 91193
Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

2 PROJECT MANAGEMENT PERSONNEL

This EMP provides measures, guidelines and procedures for managing and mitigating potential environmental impacts. The EMP also indicates monitoring and reporting requirements and sets responsibilities for those carrying out management and mitigation measures. Namchar shall provide a project team to oversee activities and responsibilities.

2.1 Organisational Structure, Roles and Responsibilities

The proponent shall be responsible for:

- Ensuring all members involved in the operations of Namchar, including contractors, comply with the procedures set out in this EMP;
- Ensuring that all persons are provided with adequate training, supervision, and instruction to fulfil this requirement;
- Ensuring that any personnel allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood.

The proponent shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this EMP, and meet the responsibilities listed above.

2.2 General Manager

A General Manager is available during the operations of the factory. The General Manager will be responsible for the following roles:

- Ensuring the all staff are aware of the commitments made in the EMP and any other relevant regulatory requirements and that operations will be undertaken in compliance with these;
- Conducting meetings regularly to review actions arising from previous inspections, current status of tasks and schedule of upcoming tasks;
- Arranging an independent 3rd party audit to assess the level of compliance to the EMP;
- Liaising with the Safety, Health, and Environmental Representative.

The key personnel and environmental responsibilities are presented in Table 2.

TABLE 2 - KEY ROLES AND THEIR RESPONSIBILITIES

ROLE	RESPONSIBILITY & DUTIES
General Manager (Proponent)	• Responsible for ensuring compliance with this EMP • Ensuring employees understand and comply with the requirements of this EMP • Ensuring that all personnel are provided with enough training, supervision and instruction to fulfil this requirement • Ensuring compliance with this EMP including overseeing the day to day activities during operations, and routine and non-routine maintenance works during operations • Ensure the environmental policy is communicated to all personnel • Responsible for providing the required resources (including financial and technical) to complete any required tasks

ROLE	RESPONSIBILITY & DUTIES
	• Responsible for the management, maintenance and revisions of this EMP • Maintain a community issues and concerns register and keep records of complaints • Maintain an up to date register(s) of employees who have completed the site induction • Ensuring that best environmental practice is undertaken throughout the operations of the factory • Report any non-compliance or accidents to the relevant authority
SHE representative	Namchar should have a Safety, Health and Environmental representative who will be responsible for the implementation of the EMP for the facility. The SHE representative will be available, as required, throughout the operations of the factory and is responsible for the following roles: • Notifying relevant regulatory authorities if serious environmental incidents occur as soon as possible. • Being responsible for all management plans and environmental monitoring • Receiving and responding to environment-related complaints received from the public or other stakeholders • Bearing authority and independence to demand reasonable steps as required to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant construction activities be ceased immediately should an adverse impact on the environment be likely to occur. • Weekly checklist must be completed by the SHE Representative and findings submitted to the General Manager • Monthly EMP checklist must be completed by the SHE Representative. Findings are to be submitted to the General Manager • Internal compliance certificate must be completed monthly by the SHE Representative incorporating the checklist' findings. This certificate must be submitted to the General Manager. • Provisioning of environmental awareness/management training and inductions • Ensuring that best environmental practice is undertaken throughout the operations of the facility • Timely distribution of any relevant environmental documentation, including revisions to this EMP to all staff.
Employees / Contractors as well as visitors where applicable	• Responsible for being compliant with and adhering to this EMP at all times • Ensuring they have undertaken a site induction and are conversant with the requirements of this EMP • Reporting of any operations and conditions that deviate from the EMP or any non-compliant issues or accidents to the proponent. Any contractors hired during the operation or maintenance activities at the factory shall be compliant with this EMP, and shall be responsible for the following: • Undertaking activities in accordance to this EMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements • Implementing appropriate environmental and safety management measures • Reporting environmental issues, including actual or potential environmental incidents and hazards, to the proponent, and; • Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported by employees and subcontractors.

2.3 EMPLOYMENT

The proponent and all contractors shall comply with the requirements of the Regulations for Labour, Health and Safety, and any amendments to these regulations. The following shall be complied with:

- In liaison with local and regional authorities, the proponent shall ensure that local people have access to information about job opportunities and are considered first for construction / maintenance contract employment positions;
- The number of job opportunities shall be made known together with the associated skills and qualifications. The maximum length of time the job is likely to last for shall be indicated;
- Foreign workers with no proof of permanent legal residence shall not be hired, and
- Every effort shall be made to recruit from the pool of unemployed workers living in the surrounding
  area.

3 COMMUNICATIONS AND TRAINING

To ensure potential risks and impacts are minimised personnel are appropriately informed and trained to ensure risks are mitigated. It is also important that regular communications are maintained with stakeholders (if applicable) and made aware of potential impacts and how to minimise or avoid them. This section sets out the framework for communication and training in relation to the EMP.

3.1 COMMUNICATIONS

The proponent shall communicate environmental issues to all personnel through the following means (as and when required):

- Ensure all personal are allowed to attend an environmental site induction that sets out their requirements in relation to this EMP
- Ensure that the safety health environmental representative is supported and able to fulfil their role and responsibilities in terms of this EMP
- The safety health environmental representative is responsible for:
  - Ensuring audits and inspections are undertaken regularly on a risk-based schedule;
  - Toolbox talks, including instruction on incident response procedures;
  - Deliver project specific environmental briefings where required;
  - Ensure all personnel have access to the EMP, and
  - Ensure operators of key activities and environmentally sensitive operations are briefed and understand their requirements.

3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE

The General Manager and the SHE representative are the primary contact person in the event of an environmental emergency. The General Manager has the authority and independence to request reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse environmental impact be anticipated.

In the event of an incident that requires the emergency services, the following services should be contacted:

TABLE 3 - EMERGENCY SERVICES CONTACT TELEPHONE NUMBERS

TOWN	AMBULANCE	HOSPITAL	POLICE
Witvlei	+264 (62) 56-2275	+264 (62) 56-2275	+264 (67) 1-0111

For large-scale spills and other significant environmental incidents, the fire services should be contacted as required and the MEFT office informed of the incident (telephone +264 61 284 2111). All correspondence with MEFT should be undertaken by the General Manager as guided by the SHE Representative.

3.3 COMPLAINTS HANDLING AND RECORDING

The proponent shall maintain a complaint's register (example attached as Appendix D) that will detail the name and contact details of the complainant, date and time of the complaint, nature of the complaint, the action is taken to resolve issues, and date of complaint handover. The proponent shall be responsible for nominating the correct personnel to coordinate and resolve the issue.

Any complaints received verbally shall be recorded as per above and the information shall be given to the proponent who is overall responsible for the management of complaints and will provide a written response to the complainant.

The workforce shall be informed about the complaints register, its location and the person responsible, to refer residents or the general public who wish to lodge a complaint. The complainant shall be informed in writing of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The complaints register shall be kept for the factory and will be available for government or public review upon request.

3.4 TRAINING AND AWARENESS

All employees of the proponent shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training, and experience.

3.5 SITE INDUCTION

All personnel shall be inducted with a specific environment and social awareness training. The environment and social awareness training shall ensure that personnel is familiar with the principles of this EMP, the environment and social aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures. The proponent shall ensure a register of completed training is maintained. The site induction should include, but not limited to the following:

- A general site-specific induction that outlines:
    - What is meant by "the environment" and the EMP?
    - What are the environmental risks of this facility?
    - Why the environment needs to be protected and conserved
    - How operational and construction activities can impact the environment
    - What can be done to mitigate such impacts?
- The inductee's role and responsibilities with respect to implementing the EMP;
- The site environmental rules;
- Details of how to deal with, and whom to contact, in the event of environmental problems should they occur;
- The potential consequences of non-compliance with this EMP and relevant statutory requirements; and
- The role of responsible people for the project.

4 REPORTING, COMPLIANCE, AND ENFORCEMENT

4.1 Environmental Inspections & Compliance Monitoring

Annual inspections and audits of the facility will be managed and undertaken by the proponent. All infrastructure will be inspected to ensure the equipment's are operating as per specification; no damage has been caused, and no leaks or spills have occurred. Any non-conformance shall be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action is taken and any necessary follow up measures required.

The factory exports charcoal to international companies. Therefore, adheres to the standards and requirements of such companies, the facility will be subject to numerous international as well as local audits. These audits include the following:

- **Forest Stewardship Council (FSC) Audit** - The audit is an internationally accredited audit platform. The company is audited by the soil association on a yearly basis to maintain a valid certificate. Without this audit, the products cannot be sold to their clients in Europe, and
- **Business Social Compliance Initiative (BSCI) Audit -** The BSCI audit focuses on labour relations. It considers social security, Personal Protective Equipment (PPE), acceptable levels of dust emissions, minimum wage, sanitation, etc.

4.2 Non-compliance

Where it has been identified that work is not compliant with this EMP, the proponent shall ensure corrective actions are implemented so that the work returns to being compliant as soon as possible. In instances where the requirements of the EMP are not upheld, a non-conformance and corrective action notice shall be produced (refer to Appendix E). The notice shall be generated by the safety health environmental coordinator during the inspections and the proponent shall be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

A non-compliance event/situation, for example, is considered if:

- There is evidence of a contravention of this EMP and associated indicators or objectives;
- The proponent has failed to comply with corrective or other instructions issued by an authority; or
- The proponent fails to respond to complaints from the public.

4.3 Incident Reporting

The proponent must have an accident and incident reporting system that covers all applicable statutory requirements. The section below sets out the minimum requirements for incident reporting and should be used as a basis for incident reporting, in the event that no incident reporting system exists.

Any incident or "near miss" involving the proponent, a nominated representative, any contractor, or its subcontractors or any third party's personnel, property, plant, or equipment, must be:

- Orally reported to the General Manager or the General Managers nominated Representative:
    - immediately and without delay

  - regardless of whether injury to personnel has occurred
  - or property or equipment has been damaged.
- Written up and handed to the General Manager or the General Managers nominated Representative by the end of the shift. The written report should:
  - state all known facts and conditions at the time of the incident and
  - include a preliminary assessment of the most likely potential causes of the incident under the current circumstances.

For any serious incident involving a fatality, or permanent disability, the incident scene must be left untouched until witnessed by a representative of the Police. This requirement does not preclude immediate first aid being administered and the location being made safe.

The General Manager must investigate the cause of all work accidents and significant incidents and must provide the results of the investigation and recommendations on how to prevent a recurrence of such incidents. A formal root-cause investigation process should be followed.

4.4 DISCIPLINARY ACTION

This EMP is a legally binding document and non-compliance with it shall result in disciplinary action being taken against the perpetrator/s. Such action may take the form of (but is not limited to):

- Fines / penalties;
- Legal action;
- Monetary penalties imposed by the proponent on the contractor;
- Withdrawal of licence/s; and
- Suspension of work.

The disciplinary action shall be determined according to the nature and extent of the transgression / non-compliance, and penalties are to be weighed against the severity of the incident.

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT

5.1 OBJECTIVES AND TARGETS

Environmental protection is the responsibility of management and if management is environmentally aware, it motivates all employees and their associated business partners, customers and suppliers to think and act in a more environmentally responsible manner. Environmental objectives and targets have been developed so that activities of Namchar can minimise potential impacts on the environment, as far as reasonably practicable.

Environmental objectives for the facility are as follows:

- Zero pollution incidents;
- Sustainable resource use (water and energy);
- Application of the waste management hierarchy;
- A safe working environment for employees; and
- Use natural resources effectively and efficiently.

6 ENVIRONMENTAL MANAGEMENT MEASURES

6.1 ENVIRONMENTAL PERMITS

Although the Water Resources Management Act, No. 11 of 2013 is not enforced, it is best practice to adhere to its stipulations while ensuring compliance with the Water Act, No. 54 of 1956, which is maintained still.

Since water is sourced from a nearby existing borehole, a licence to abstract water is required in terms of the Water Act, No. 54 of 1956 and shall operate in accordance with any conditions of the licence.

There is a pit latrine system present on site. Due to the construction of new infrastructure, it is required to construct an industrial and domestic wastewater treatment plant and related pipeline system which will require discharge permits. The proponent will ensure that all documentation, permits and measures are in place before discharge occurs, including obtaining the relevant effluent discharge permit in terms of the Water Act to be applied for at the Ministry of Agriculture, Water and Land Reform (MAWLR). In future, should the facility be connected to the village council water system, the village council is responsible for the reticulation and treatment of sewerage water discharged into the council's sewerage system.

In order to obtain an effluent wastewater permit, the proponent should have the following information and complete the application form contained in Appendix A:

- Specification of the treatment system (type of technology);
- Description of major activities resulting in effluent generation;
- List of contaminants (analysis of effluent samples);

- Effluent quality;
- Points of discharge;
- Show the present average quantities of incoming water, recycled water, final outflow; and
- Where final effluent discharged.

6.2 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES

An environmental review of the project has been completed to identify all the commitments and agreements made within the environmental assessment report. From this, a list of environmental commitments and risks were produced, which details deliverables including measures identified for the prevention of pollution or damage to the environment during the project.

Table 5 provides a register of environmental risks and issues, which identifies mitigation and monitoring measures, as well as the responsible person. This register will be subject to regular review by the project manager and updated when necessary. The project manager will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

TABLE 4 - ENVIRONMENTAL RISKS AND ISSUES, MITIGATION AND MONITORING MEASURES

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
General operational and construction activities	Charcoal dust and vehicular movement causing air pollution affecting both fauna and flora species	Machinery operations and vehicle movements are some of the activities that may potentially emit dust during the project activities. To minimise the potential for dust generation the following management measures should be implemented, as required: – The dust extractor should be connected to duct piping around the facility, to extract and convey the dust. – These duct pipes should be located above the three screening machines (sieving stations), the holding bins and above the bagging stations. – Monitor air quality to detect areas of concern by implementing dust monitoring stations at strategic locations around the factory. – Vehicles must adhere to speed limits so as to avoid producing excessive dust. – Vehicles and machinery should be maintained so as to limit exhaust fume emissions. – Use surfaces that minimize dust accumulation and facilitate cleaning – Where an effect is profound, ensure dust suppression measures are in place.	– Daily	– SHE Representative
	Noise disturbance due to the operational activities.	– Avoid noise-generating activities at night. – Avoid noise-generating activities that could impact other users of the area by ensuring noisy activities occur indoors, avoid hammering on metal that generates intermittent annoying noise especially at night, and ensure appropriate measures are put in place to rectify noise compliants should they occur. – Scheduling of works to avoid disturbance between the hours of 7:30 am and 5 pm. – Saturday operational hours are from 8 am – 12 noon, when near residential areas. – Procedures for receiving complaints from nearby land users or residents to be in place and mitigation measures to be implemented should construction generate excessive noise, which is unexpected.	– Daily	– General manager/ SHE Representative/ Employees

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	Increased movement of transportation trucks and vehicles for operational activities may affect terrestrial ecology and biodiversity as well as the community	– Restrict movements to areas of activities only – Use existing tracks and routes only – Restrict movements to daytime hours – Make workers aware and notify them on avoiding certain areas. – No driving off designated access routes (into the bush) / off-road driving – No animals or birds may be collected, caught, consumed or removed from site **Presence of construction and operation team can be blamed for stock theft and poaching in the surrounding area therefore:** – Develop and implement an operations manual or procedures to work on private farms and implement monitoring programmes thereafter – Ensure appropriate supervision of all activities – Accidents and incidents need to be reported to the project manager and recorded in the incident register – Maintain continuous engagement with neighbouring residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon	– Daily	– General manager/ SHE Representative/ Employees
	Noise from separation machine and prolonged exposure can result in nuisance for workers and neighbours	– Ensure noise level is maintained within occupational exposure limit of 85 Db – Ensure that machines are maintained on a regular basis – Hearing protection provided upon request.	– Daily	– SHE Representative

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Emergency Incidents	Fire at the Factory/Workshop	– Development of a Fire Control Plan through the process of risk assessment – Operational risk assessment for all hot works – Developing site specific work procedures as part of the fire management system – Induction on fire prevention and toolbox talks – Control and reduce the potential risk of fire by segregating and safe storage of materials – Avoid potential sources of ignition by prohibiting smoking in and around facilities. – Perform hot work in a safe location, or with fire hazards removed or covered – Make suitable fire-extinguishing equipment immediately available. This can include pails of water, buckets of sand, or portable extinguishers. – Enforce safety procedures for hot work permits and ensure explosion hazards associated with hot work activity are recognized and mitigated.	– Daily	– SHE Representative
	Soil and water contamination due to inadequate control or accidental release of hazardous substances on site	**Storage** – Label chemicals appropriately – Chemicals with different hazard symbols should not be stored together - clear guidance on the compatibility of different chemicals can be obtained from the Materials Safety Data Sheets (MSDS) which should be readily available – Store chemicals in a dedicated, enclosed, and secure facility with a roof and a paved/concrete floor. – Chemical tanks should be completely contained within secondary containment such as bunding – Consider feasibility of substitution of hazardous chemicals with less hazardous alternatives. – Storage and handling of fuels and chemicals shall be in compliance with relevant legislation and regulations – Fuels, lubricants, and chemicals are to be stored within appropriately sized, impermeable bunds or trays with a capacity not less than 110% of the total volume of products stored	– Daily	– All staff members

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		Spills The kits with the following items as a minimum should be made available on site: – Absorbent materials – Shovels – Heavy-duty plastic bags – Protective clothing (e.g. gloves and overalls) – Major servicing of equipment shall be undertaken offsite or in appropriately equipped workshops – For small repairs and required maintenance activities all reasonable precautions to avoid oil and fuel spills must be taken (e.g. spill trays, impervious sheets). – Provision of adequate and frequent training on spill management, spill response and refuelling must be provided to all onsite staff – No refuelling is to take place within 50 meters of groundwater boreholes, surface water or streams. – Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks – All major petroleum product spills (spill of more than 200 litres per spill) should be reported to the Ministry of Mines and Energy (MME) on Form PP/11 titled "Reporting of major petroleum product spill', attached as Appendix B. **The following points therefore apply to all areas on the site:** – Assess the situation for potential hazards. – Do not come into contact with the spilled substance until it has been characterised and necessary personal protective equipment (PPE) is provided. – Isolate the area as required. **The following measures are to be implemented in response to a spill:** – Spills are to be stopped at source as soon as possible (e.g. close valve or upright drum) – Spilt material is to be contained to the smallest area possible using a combination of absorbent material, earthen bunds or other containment methods		

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– Spilt material is to be recovered as soon as possible using appropriate equipment. In most cases, it will be necessary to excavate the underlying soils until clean soils are encountered – All contaminated materials recovered subsequent to a spill, including soils, absorbent pads and sawdust, are to be disposed of at an appropriately licensed facility – A written Incident Report must be submitted to the general manager.		
Water and wastewater management	Risk of environmental pollution	– Recycle wastewater, where possible – Install devices to prevent spills and overfills, e.g. shutoff devices/valves for large volume tanks (e.g. > than 2000lts) – Install an impermeable hardstand in areas of high-risk contamination to prevent ground infiltration by pollutants – Segregation of wastewater (domestic and industrial effluent) – The monitoring of wastewater discharges should be conducted on a regular basis.	– Daily/Weekly	– SHE Representative
	Possible sewage discharge runs the risk of pathogen /diseases transmissions and odours	– Ensure toilets are always clean and dry – Provide adequate sanitary facilities, including clean water, soap, disposable paper towels. – Ensure suitable personal protective equipment, that may include waterproof/abrasion-resistant gloves, footwear, eye, and respiratory protection. – Face visors are particularly effective against splashes when working with sewage	– Daily	– SHE Representative

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Waste Management	Environmental pollution (littering and poor storage of waste)	– Implement a waste management plan covering all aspects of waste generated on site – Training and toolbox talks about the importance of waste management – Ensure high standard of housekeeping across the site – Solid waste shall be stored in an appointed area in covered, tip-proof metal drums/skips for collection and disposal to an approved waste management site. – The waste storage areas shall always be kept clean and tidy – Storage of domestic waste on site may result in the attraction of unwanted scavengers and should be removed as soon as it is feasible. – Implement the waste management hierarchy across the site: Avoid, reuse, recycle, then the disposal – Return packaging of hazardous and non-hazardous materials (wherever possible), such as empty bags, to farmers for reuse – Solid wastes should be deposited/emptied on a regulate basis – See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers – Liaise with the municipality regarding the waste and handling of hazardous waste. – Hydrocarbon and chemical contaminated solids have the potential to cause contamination to the soil, ground and/or surface water, thus correct storage and disposal methods are required.	– Daily	– All staff members

TASK ACTIVITY/ EQUIPMENT	IMPACT IDENTIFIED	MITIGATION CONTROL MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Heritage	Disruption of heritage sites	Discovery of unearthed archaeological remains to be uncovered, the following measures (chance find procedure) shall be applied: – Works to cease, area to be demarcated with appropriate tape by the site supervisor, and the Site Manager to be informed – Site Manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform the Environment and Social Manager with the GPS position if possible – If works cannot proceed without damage to findings, Site Manager to inform the Environmental Manager who will get in touch with an archaeologist who will provide advice – Environment and Social Manager / Archaeological Specialist to evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave in situ (depending on the nature and value of the remains) – Inform the police if the remains are human, and – Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as direct.	– Daily	– General manager
Job creation, skills development and business opportunities	Beneficial socio-economic impacts on a local and regional scale	– Maximise local employment and local business opportunities – Enhance the use of local labour and local skills as far as reasonably possible – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible	– Monthly	– General Manager /Proponent

7 IMPLEMENTATION OF THE EMP

No significant impacts are anticipated for the activities that have been identified and management and mitigation measures are in place for potential risks.

This Environmental Management Plan (EMP):

A. Has been prepared pursuant to a contract with Namchar.
B. Has been prepared based on the information provided to ECC up to September 2020;
C. Is for the sole use of Namchar, for the sole purpose of an EMP;
D. Must not be used (1) by any person other than Namchar, or (2) for a purpose other than an EMP; and
E. Must not be copied without the prior written permission of ECC.

APPENDIX A - APPLICATION FOR A WASTEWATER DISCHARGE LICENCE

DEPARTMENT OF WATER AFFAIRS & FORESTRY

FAX: (061) 208 7160 PRIVATE BAG 13184

TEL: (061) 208 7111 WINDHOEK

REFERENCE NO: _____ NAMIBIA

APPLICATION FOR A WASTEWATER DISCHARGE LICENCE, IN TERMS OF PART XIV OF THE WATER RESOURCES MANAGEMENT ACT, 2004

(Act No. 24 of 2004 - as published in the Government Gazette of the Republic of Namibia, No. 3357, of 23 December 2004, Government Notice No. 284)

A. GENERAL INSTRUCTIONS

1. Applications must be submitted in duplicate to:

   The Permanent Secretary
   Attn.: Law Administration
   Ministry of Agriculture, Water and Forestry
   Private Bag 13184
   WINDHOEK

2. Application Fee (to accompany this document): N$_____

3. The various sections have to be completed as follows:

   Section B & C - All applicants
   Section D - Complete only the part relevant to technology employed in your works
   Section E - All applicants (compulsory!)

4. Only the relevant Sections that have been filled in need to be submitted with this application

5. A separate application needs to be filled in for each different plant/works.

NAME OF TREATMENT PLANT/WORKS: _____

PLACE: _____ **GPS Coordinates:** _____
(e.g. town, settlement)

B. GENERAL INFORMATION

1. Name of applicant: _____

2. Address - Contact Person: _____
   - Postal: _____
   - Physical: _____
   - Tel No.: _____
   - Fax No.: _____
   - E-mail: _____

3. Region in which plant is situated: _____

4. Constituency in which plant falls: _____

5. Type of establishment:
   (e.g. school, town, industry) _____

6. Source of water supply:
   (e.g. borehole, river, sea) _____

7. Total water consumption: _____ m^3/day ADWF*

   (*ADWF = Average Dry Weather Flow) _____ m^3/day ADWF*

   - Consumption based on the average usage over a 12-month period. _____ m^3/day ADWF*
   - List different sources separately _____ m^3/day ADWF*

8. Application:

   - Prepared by: Name: _____ Position: _____

     (e.g. Consultant) Signature: _____ Date: _____

   - Responsible Executive: Name: _____ Position: _____

     Signature: _____ Date: _____

1

C. TECHNICAL DETAILS - GENERAL

Answers to the following information must be contained in this application either from the questionnaire or as an attachment thereto (see also details in Appendix A):

NAME OF TREATMENT PLANT/WORKS: _____

1. Type of effluent (please also refer to Section D for classifications): _____

2. Site of works:

2.1 Submit a site plan indicating the exact location (or intended location) of the works. This plan should indicate (as a minimum):

2.1.1 General location of the works with regards to settlements, main roads, boreholes, rivers etc.

2.1.2 Layout plan of property showing all existing and proposed water pipes and effluent and drainage lines in distinctive colours.

2.1.3 Topographical plan/area photograph/contour plans showing the property and effluent treatment plant in relation to residential areas, rivers, pans, dams, lakes and boreholes.

2.1.4 Contour plans indicating the exact location of the effluent treatment works and point of discharge of final effluent in relation to watercourses that drain the area.

2.1.5 Give the following information:

2.1.5.1 Distance to nearest inhabitants: _____m

2.1.5.2 Distance to nearest water abstraction point (e.g. river, borehole): _____m

2.1.5.3 Distance to nearest watercourse (e.g. dry river) and specify: _____m

2.1.5.4 Wind direction (main/normal) _____

2.2 Submit overall details of works:

2.2.1 Type of effluent treatment system and a brief description of its method of operation. (If domestic effluents are dealt with by the local authority please enclose a letter from the authority confirming this agreement).

2.2.2 Flow diagram/mass balances to show the present average quantities of incoming water, recycled water, final outflow, seepage and evaporation losses (all in m^3/day).

2.2.3 Layout orientation drawing indicating all major treatment units and fence around works.

2.2.4 Complete flow diagram and key design parameters to include:

2.2.4.1 Dimensions and design capacities of each unit process;

2.2.4.2 Process Flow Diagram(s) and major instrumentation employed, e.g. water meters;

2.2.4.3 Loadings on the system (e.g. hydraulic, COD, BOD, nitrogen, phosphate);

2.2.5 Indicate allowances that have been made for future expansion and increased loads (if any).

2.2.6 Methods of sludge disposal or recirculation.

2.2.7 Disinfection of the final effluent (indicate dosing type, method, retention period and optimum disinfectant level in final effluent).

3. Monitoring boreholes for monitoring groundwater pollution over time must be available within 500 m of the point of final effluent discharge.

4. Please note: Additional information is required for new treatment plants (e.g. an environmental impact assessment) - details can be obtained from the Department of Water Affairs and Forestry.

5. All relevant information must be included with this application. **It is a criminal offence to deliberately withhold vital information relevant to this application.** Where applicants are found to be in contravention with this requirement, they may/will be prosecuted.

3

D. TECHNICAL DETAILS - SPECIFIC

Applicants should only complete sections relevant to their specific effluent (please tick relevant box):

☐	D-1: Domestic Effluent - Includes wastewater collected in towns (excluding industrial effluent!), villages, schools, lodges, administration buildings.
☐	D-2: Industrial Effluent - Includes wastewater generated by any industry, factory, etc.
☐	D-3: Mining Effluent - Includes wastewater accumulated or collected due to mining operations (e.g. Acid mine wastewater)
☐	D-4: Combination/mix of various effluents (list major effluent streams on page 11)

Final Effluent Reuse

The pressure on Namibia's existing fresh-water supplies can, to a great extent, be eased by the sensible reuse of effluents for a variety of purposes including dust control, agriculture and industrial processes. Therefore, reuse of effluent after suitable treatment is encouraged.

The allowable reuse of an effluent is dependent upon its quality as well as many local circumstances and hence each application in this category needs careful and individual scrutiny, which should be undertaken by a specialist in this field and must be supported by an environmental impact assessment study.

A separate licence for effluent reuse is required and more details in this regards can be obtained from the Department of Water Affairs and Forestry.

D-2. INDUSTRIAL EFFLUENTS

Plant Name: .....

2.1	Describe industry and major activities resulting in effluent generation		
2.2	Capacity / Flowrates :		
	Design - Average daily flow		m^3/d
	- Peak hourly flow		m^3/h
	Actual (if in operation) - Average daily flow		m^3/d
	- Peak hourly flow		m^3/h
	If ponds are employed, state total surface area		m^2
2.3	List only major contaminants (also attach full analysis of typical effluent sample)		
2.4	Type of treatment employed (give short overview of process):		
2.5	List major treatment chemicals* employed in the unit process(es):		
2.6	Final effluent quality after treatment (put envisaged final quality for a new plant):		
2.7	Sludge generation:		
	- Volume generated		m^3/d
	- Mass		kg/d (dry solid)
	- Method of disposal		
	- Place of disposal		
	- Major constituents		
	- If sludge ponds, state frequency of cleaning		
2.8	Do you employ cleaner production principles (CPP)? Yes/No If "yes", elaborate:		
2.9	Is the following documentation included (give reason if not)? • Water (and waste) management plan: Yes/No • Decommissioning plan: Yes/No		

* For the chemicals employed, proper mass balances should be included that show chemical usage, movement and discharge within the factory/process(es). All safety aspects related to handling, storage and disposal of chemicals on site must be followed at all times.

9

D-4. COMBINATION OF VARIOUS EFFLUENTS

Plant Name: .....

4.1	Describe major activities resulting in effluent generation (e.g. type of industry):				
4.2	Capacity / Flowrates of different streams (major only)	1	2	3	
	Type (e.g. domestic, industrial, mining, others)				
	Design - Average daily flow				m^3/d
	- Peak hourly flow				m^3/h
	Actual (if in operation) - Average daily flow				m^3/d
	- Peak hourly flow				m^3/h
4.3	List only major contaminants (also attach full analysis of typical effluent sample)				
4.4	Type of treatment employed (give short overview of process)				
4.5	List major treatment chemicals employed in the unit process(es):				
4.6	Final effluent quality after treatment (put envisaged final quality for a new plant)				
4.7	Sludge generation:				
	- Volume generated				m^3/d
	- Mass				kg/d (dry solid)
	- Method of disposal				
	- Place of disposal				
	- Major constituents				
	- If sludge ponds, state frequency of cleaning				

11

E. FINAL EFFLUENT DISPOSAL

1.4.1	Where is the final effluent discharged to? (E.g. French drain, pumped out by Local Authority, dry river course, perennial river, etc.)	
1.4.2	IF soakaway, state: - Type of soil - Suitability/porosity of soil - Size of soakaway area - Include topography and plan of soakaway area	
1.4.3	Is there any post-treatment applied? (e.g. disinfection, filtration)	
1.4.4	Is the final effluent re-used? (Yes/No)	
	If "Yes", complete:	
	- Do you have a reuse licence?	
	- Amount of water that will be re-used:	m^3/d
	- For what application:	
	- Type of irrigation used (if applicable):	
	- What crops are grown:	
	- Area of land that will be irrigated:	ha
1.4.5	Name (if any) downstream users (downstream of discharge point).	
1.4.6	Past records of complaints or objections by people living close to works:	

Reuse:
A reuse licence is required – details can be obtained from the Department of Water Affairs and Forestry.

Irrigation:

The crops allowed to be irrigated are dependent upon effluent quality (details will be supplied on request by the Department of Water Affairs and Forestry).

12

APPENDIX B - REPORTING OF MAJOR PETROLEUM PRODUCT SPILL FORM PP/11

FORM PP/11

MINISTRY OF MINES AND ENERGY

PETROLEUM PRODUCTS AND ENERGY ACT, 1990
PETROLEUM PRODUCTS REGULATIONS (2000)

REPORTING OF MAJOR PETROLEUM PRODUCT SPILL

(Regulation 49(1))

(Please note that where form is completed by hand it must be completed in capital letters)

1. Name of licence/certificate-holder/person .....
.....
*(*Delete whichever is not applicable)*

2. Postal address .....
.....

3. Physical address .....
.....

4. Telephone Number (including code) .....

5. Facsimile Number (including code) .....

6. Licence/certificate* number and date of issue, if applicable .....
.....
*(*Delete whichever is not applicable)*

7. Date of petroleum product spill .....

8. Location of petroleum product spill .....
.....
.....
.....

9. Reasons for petroleum product spill .....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

10. Type of petroleum product involved in petroleum product spill .....

.....

.....

.....

11. Quantity of the petroleum product spill .....

.....

.....

.....

12. Indicate whether the petroleum product has or will have any negative effect on the environment and the safety and health of person or the property of persons .....

.....

.....

.....

.....

.....

.....

.....

.....

13. Provide full details of all remedial actions taken to minimise risks associated with petroleum product spills and all cleaning-up operations taken in connection therewith .....

.....

.....

.....

.....

.....

.....

.....

.....

DECLARATION

I, ...,
hereby declare that the information submitted by me in this application is true and correct.

....
Signature *Place* *Date*

APPENDIX C - TEMPLATE FOR MONITORING

INSPECTION DATE: _____

INSPECTION COMPLETED BY: _____

SUMMARY OF ACTIVITIES OCCURRING:

_____

_____

_____

_____

Ref No.	Item	Requirements	Responsibility	Compliant	Notes / Action Taken / Corrective Action Required
1	Noise	– Is the facility avoiding noise generating activities at night? – Is scheduling of works to avoid disturbance between the hours of 22pm and 5 am in place? – Are Saturday operational periods from 8 am – 12 noon, when near residential areas? – Are procedures for receiving complaints from nearby land users or residents in place and mitigation measures implemented should operations generate excessive noise?	– SHE Representative	Yes☐ No☐ N/A☐	
2	Operations of mechanical equipment and engines	– Are regular checks of all plant and equipment conducted routinely? – Is plant and equipment services up to date? – Are spill kits and/or drip trays available?	– SHE Representative, and – General Manager	Yes☐ No☐ N/A☐	

Ref No.	Item	Requirements	Responsibility	Compliant	Notes / Action Taken / Corrective Action Required
3	Production and effluent discharge	– Is the domestic and industrial effluent discharged off into approved systems? – If not, are regular water quality samples taken to ensure the treated wastewater complies to the prescribed general standards as set out in the Water Resources Management Act, 2004 (Act No. 24 of 2004)?	– SHE Representative, and – General Manager	Yes☐ No☐ N/A☐	
4	Solid waste generation	– Has the waste management plan and the application of the waste management hierarchy implemented? – Are suitable collection points in place for waste collection at the factory? – Is waste collected regularly and transported correctly? – Is hazardous waste such as waste oil/lubricant stored in a hazardous waste storage area and disposed of by accredited hazardous waste handlers such as Rent A Drum?	– SHE Representative, and – General Manager	Yes☐ No☐ N/A☐	
5	Lighting	– Are energy-efficient light bulbs installed? – Is unnecessary lighting avoided where possible? – Are lights switched off at night?	– SHE Representative, and – General Manager	Yes☐ No☐ N/A☐	
7	Air Emissions	– Are the dust extractors cleaned regularly? – Are vehicles serviced regularly to reduce emissions? – Is there dust monitoring system in place?	– SHE Representative	Yes☐ No☐ N/A☐	
8	PPE	– Are personnel wearing the correct PPE? – Is PPE in good condition? – Are there any complaints on the health of workers	– SHE Representative	Yes☐ No☐ N/A	

APPENDIX D - COMPLAINTS REGISTER TEMPLATE

NAME	CONTACT DETAILS	DATE AND LOCATION OF COMPLIANT	NATURE OF COMPLIANT	ACTION TAKEN TO RESOLVE	NOMINATED PERSON TO RESOLVE ISSUE *(Signature)*	DATE OF RESOLUTION/ CLOSED OUT COMPLAINT

APPENDIX E - MONTHLY INTERNAL COMPLIANCE CERTIFICATE

FOR THE PERIOD …… TO ……

MANAGEMENT REPRESENTATIVE:	SIGN:
SHE Representative:	SIGN:

Date of Submission: _____

Key activities on site during the month: _____

NON-CONFORMANCE:

Area of activity: _____

Reason: _____

Responsible party: _____

Results: _____

Correction action taken:	
Intended follow-up:	

GOOD PERFORMANCE:

Description of activity or action in which the area/person went beyond compliance towards responsible care for the environment:

ADDITIONAL COMMENTS: