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ENVIRONMENTAL MANAGEMENT PLAN

for the Feedmaster Feedmill and
proposed Storage Warehouse on the
Farm Otjihavera No 62, Otjoondjupa
Region

Reviewed and updated for period
July 2022 to June 2025



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PROJECT NAME	Environmental Management Plan for the Feedmaster Feedmill and Proposed Storage Warehouse on the farm Otjihavera No 62, Otjozondjupa Region
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ABBREVIATIONS AND ACRONYMS

CV	Curriculum Vitae
dBa	Decibels
DEA	Directorate of Environmental Affairs
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EMP	Environmental Management Plan
LFO	Light Fuel Oil
MAWF	Ministry of Agriculture, Water and Forestry
MET	Ministry of Environment and Tourism
MHSS	Ministry of Health and Social Services
MME	Ministry of Mines and Energy
MVA	Mega Volts Ampere
NPI	Namibia Poultry Industry
PPE	Personal Protective Equipment

1 INTRODUCTION

1.1 BACKGROUND

Feedmaster Pty (Ltd), operates an animal feed manufacturing facility to the North of Windhoek, on the Farm Otjihavera No 62, adjacent to the Namib Poultry Facility. This site was established during the construction of the Namib Poultry site, in order to supply their needs, as well as a growing demand for animal feed in Namibia. See the locality map in Figure 1.



incorporation of or changes to existing permits, any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

Figure 1: Locality map of the Feedmaster Feedmill

The Environmental Management Act (2007) and its Regulations (2012) require that the facility receives an Environmental Clearance Certificate for the operation of the feed mill. The schedule of the regulations has the following bearing on the feedmill:

"9.2 Any process, or activity which requires a permit, licence or other form of authorisation...in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

9.4 The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum, gas of paraffin, in containers with a combined capacity of more than 30 m³ at any one location."

The facility is Governed by the acts listed in Section 3, to control matters relating to biosecurity, health and safety, and environmental risk. Point 9.4. above is also applicable to the site.

Environmental Clearance was initially granted in 2019, dated 2019-07-26 (See attached Certificate, Appendix A) and expires on 2022 -07-26.

This reviewed and updated Environmental Management Plan is for the period: July 2022 to June 2025 or depending on the exact date on the renewed Clearance granted.

1.2 TERMS OF REFERENCE

Since the plant is already operational; the impacts are relatively low in significance, and the plant is surrounded by the Namib Poultry complex which stretches over Farms Otjihavera and Okapuka, with no other neighbours, an Environmental Management Plan had been compiled in 2019 for the operation and was submitted for the purpose of obtaining an Environmental Clearance Certificate.

This update reviews the monitoring initiatives proposed in the first EMP, reports on what has been achieved and how compliance may be improved. It also reports on new developments on site since 2019.

1.3 APPOINTED ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Stephanie van Zyl of Enviro Dynamics is the EAP who compiled this environmental management plan. Her CV is attached as **APPENDIX B**.

2 DESCRIPTION OF THE FEEDMILL

2.1. THE SITE

Figure 1 below shows an overview of the main facilities on the site.



Figure 2: Overview of the site layout

The feedmill is approximately 20 m high (i.e. 6 storeys), and the complex is shown in the photo below.



Figure 3: General impression of the Feedmaster Feedmill at Namib Poultry Industries

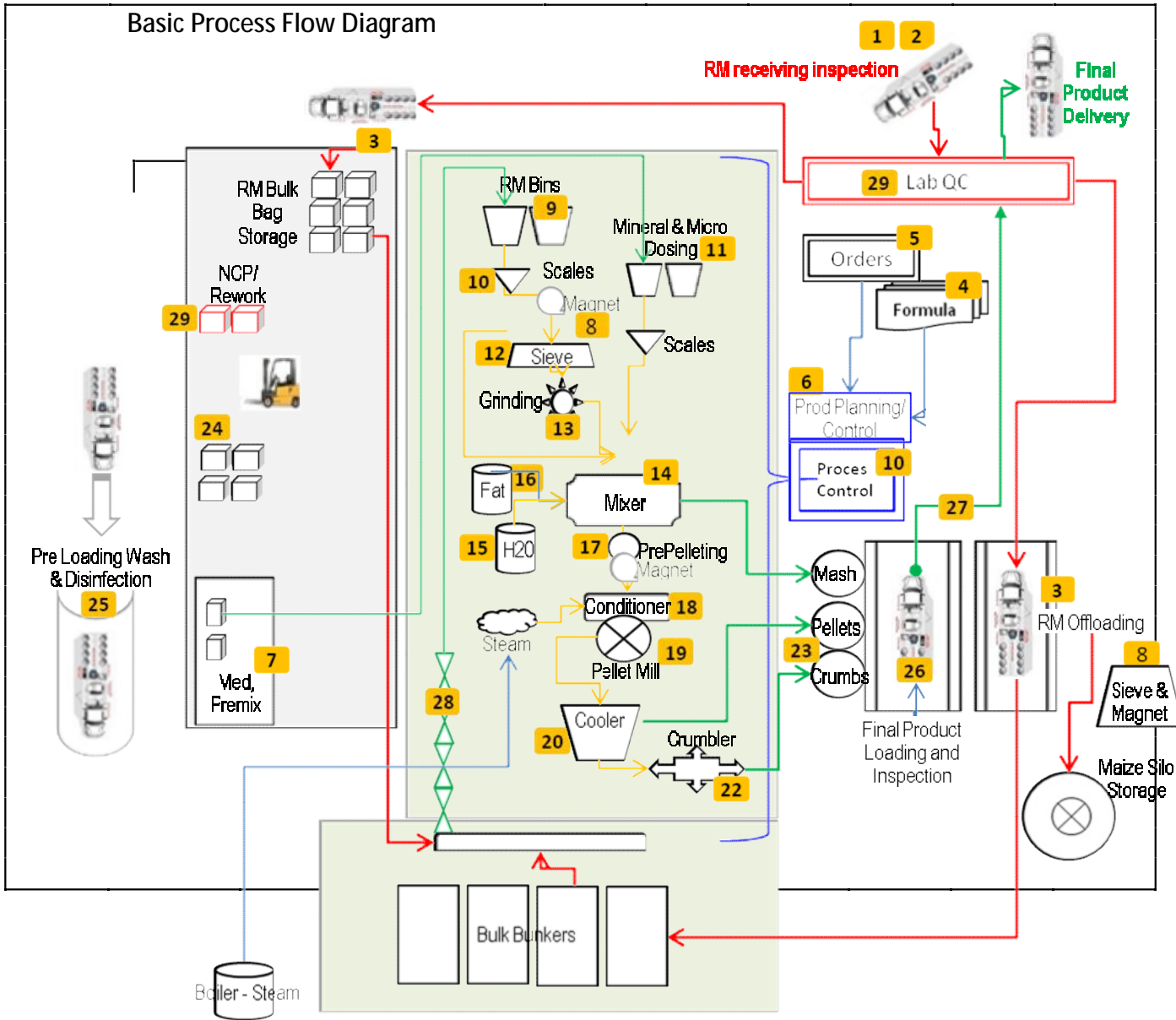
Feedmaster plans a new storage warehouse facility to the North of the existing site on the same premises (Appendix C). This facility does not trigger an ECC per se, except for an additional fuel storage facility planned. A consumer licence permit is required from the Ministry of Mines and Energy for this purpose and the facility is to be banded.

Any protected trees to be removed require a permit from the Ministry of Environment, Forestry and Tourism (See Section 3). The Forestry Regulations contain a list of protected species and if any of these occur on the site to be cleared for the depot, then a harvesting permit need to be acquired for them. Potential protected trees that may occur on the site include *Boscia albitrunca* (Sheperds Tree), *Albizia anthelminthica* (Worm Cure Tree) and *Ziziphus Mucrunata* (Buffalo Thorn), and *Maerua Schinzii* (Ringwood Tree).

2.1 PROCESS FLOW

Figure 4 below shows the process flow of the plant.

Basic Process Flow Diagram



Preliminary Steps + Pre-Requisite Programs Status (PRP Status Review)	
1	Raw Material Risk analysis
2	Raw Materials procured from approved suppliers, Transported via Rail or
3	Raw Material intake and storage in bulk silo, bag stores, bulk "stacks" on
4	Formulation of Feed
5	Receiving and Processing of customer orders
6	Production Planning, Scheduling
7	Hand Additions and Pre-mix preparation
8	Sieves and Metal Removal
9	Raw Material Intake from Bulk, Silo or Bags to plant storage bins.
10	Weighing, Batching and Production Control System
11	Micro-dosing / Mineral Addition
12	Particle Size Sieve
13	Grinding
14	Mixing
15	Liquid Additions. Optizyme/Water / Colien Chorled
16	Feed Oil Addition
17	Pre-pelleting bin storage
18	Conditioning
19	Pelleting
20	Cooling
21	Sieve and fines return
22	Crumbling
23	Finished Product to Bulk Outloading / FP bin storage
24	Bagging, Product Identification, Stacking
25	Delivery Vehicle Wash and Disinfection Process
26	Loading (Pre-load Inspection, Loadin, Samplin, Despatch)
27	FP Sampling, Testing, Approval, Lab Operations
28	Conveying systems and Slides
29	Handling of Non-Conforming Product, Rework

Figure 4 Process flow

2.2 SPECIFIC FEATURES

- An LFO boiler, contained in a separate building. The boiler is used to generate steam by adding diesel to a flame. Water (approximately 300ℓ/day), circulated through the boiler, is heated to release steam which is used in the pelleting process.
- A 23,000 ℓ diesel container at the entrance to the site. It is well bunded with concrete.

○



Figure 5: Diesel storage container



- A storage area for LFO (Light fuel Oil – 43,000 ℓ) and Soja Oil (35,000 ℓ). The area is bunded in concrete.

Figure 6: Storage area for soya oil and LFO.



- A bunded and locked container for gas, paints, and soaps.

Figure 7: Storage container for chemicals and gas

A diesel storage pad with oil trap and container is also planned in the extension area, to be bunded. This area and its storage capacity needs to be included in the consumer licence for fuels from the Ministry of Mines and Energy.

- A current french drain to receive the sewerage of the ablution facility and the shower, kitchen and blowdown water from the boiler. As is shown in Appendix C, new ablution facilities are planned as part of a staff quarters and an office block. It needs to be ensured that the French drain has adequate capacity for these additional facilities.
- An exiting wash bay to disinfect vehicles for biosecurity purposes.

2.3 STAFFING

The feedmill has 17 contractors (packing, cleaning, drivers, etc.) and 35 permanent staff. They are transported to site from Okahandja via own transport, a Feedmaster bus running to Windhoek, and a privately owned bus for night shifts. There are no workers residing on site. Operations are continuous (24 hours, 6 days a week), therefore staff work on shifts.

2.4 TRANSPORT OF PRODUCTS

Feedmaster uses own transport (seven bulk trucks) to deliver the bulk products and one low bed truck to transport the bagged products. It has fixed contracts with Namib Poultry Industry (NPI), Osona Hatchery and Wentscher Poultry.

Raw materials are mostly sourced from South Africa and transported by the relevant suppliers. The diesel and LFO is sourced locally and supplied by the contractors.

2.5 ACTIVITIES ASSOCIATED WITH FEEDMILLS

Below is a simplified diagram of the feed manufacturing process in a feedmill (Figure 8), indicating the steps in the process that could have significant environmental inputs and outputs:

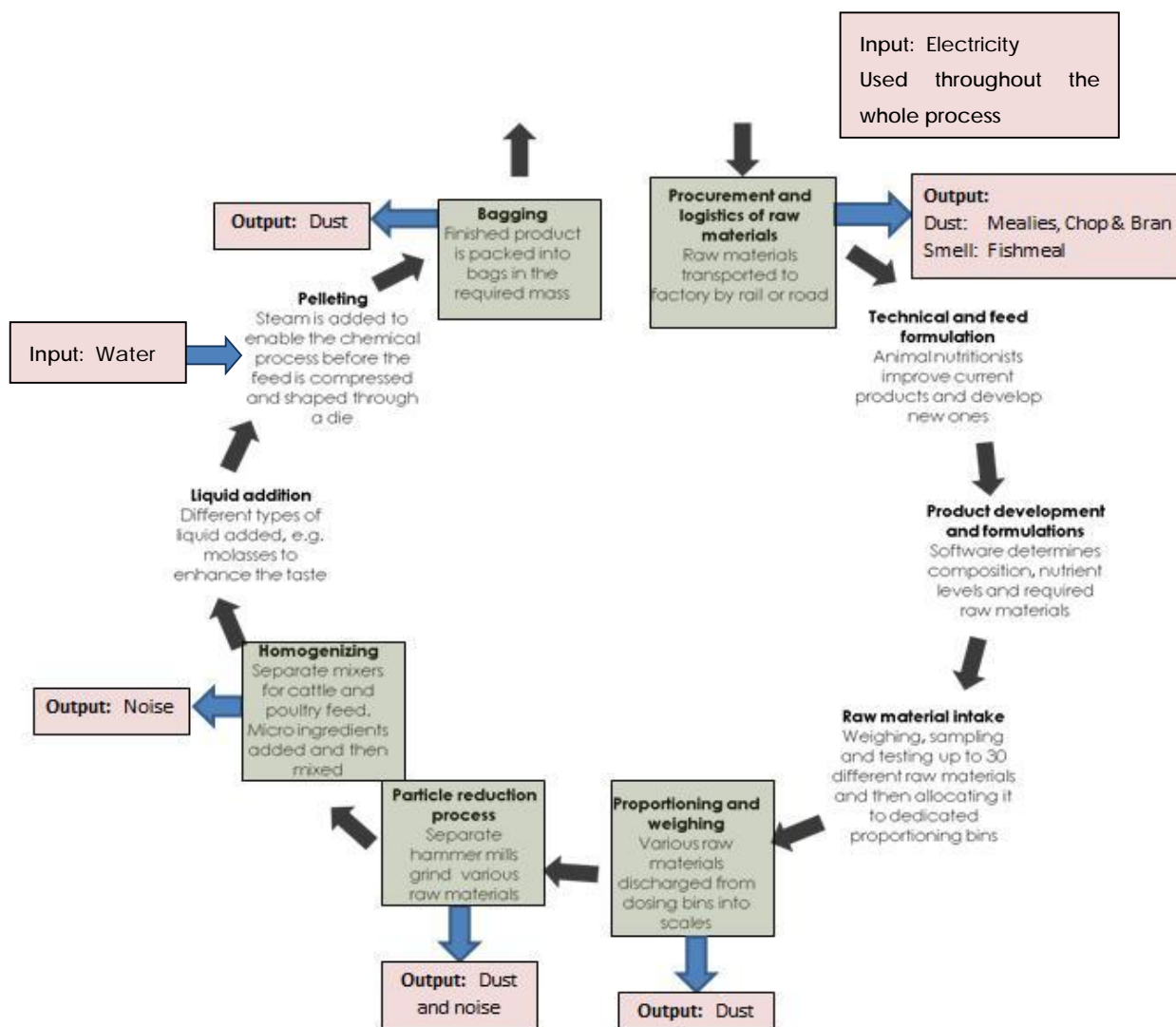


Figure 8: Various inputs and outputs associated with the different stages of the feed manufacturing process.

In order to alleviate the potentially negative environmental outputs of the feed manufacturing process, the developer intends on implementing the following mitigation/management principles to minimize the nuisances (Table 1)

:

Table 1: Intended management of outputs

OUTPUTS	HOW WILL OUTPUT BE MANAGED BY FEEDMASTER?
Dust	Factory is be equipped with an aspiration system, with all conveying elements under negative pressure, reclaiming the dust back into the system. No dust within the plant is emitted to the atmosphere. Dust is generated outside during raw material truck off loading
Waste water	No chemicals or heavy metals are being treated. The only waste water on site is sewerage, showers, kitchen and blowdown water from boiler which enters a French drain.
Smells	Because the feed manufacturing process does not use water, very little odour is generated from the plant. The smells originating from raw materials such as fishmeal are being restricted to the storage area.
Noise	The noise levels are expected to be a maximum of 85dBa inside the plant and mostly caused by the plant and at a perimeter of 50m from the plant, noise levels are expected to be in the range of a maximum of 40dBa outside the plant.

2.4. RESOURCE/INFRASTRUCTURE REQUIREMENTS

Table 2 below indicates the infrastructure and service requirements of the plant.

Table 2: Description of the service/infrastructure requirements

SERVICES	REQUIREMENTS	DESCRIPTION	SERVICE POINT CONNECTION
RESOURCES/INPUTS			
Water	Average 520 m ³ /month	Feed production process is a dry process so water is mostly required for human consumption, toilet facilities and the boiler. (this equals the consumption of approximately 30 households' consumption per day)	NamWater Connection
Electricity	Demand 244 kVA per month	Electricity needed for the operation of the feedmill. (kVA consumption per per capita per annum is app. 5.22 kVA in the City of	NamPower

SERVICES	REQUIREMENTS	DESCRIPTION	SERVICE POINT CONNECTION
		Windhoek (2006 figure).	
INFRASTRUCTURE			
Waste disposal	General waste disposal site.	General Waste disposal. Disposal of residues from milling process.	General waste (e.g. paper, plastic) taken to Kupferberg waste disposal facility via a skip provided by NPI. No residues are generated. No hazardous substances are produced. Phosphates are imported and stored on site.
Waste water	General waste water disposal.	General waste water from e.g. bathrooms and kitchen. Run-off water from washing the trucks.	Drains to a French drain.
Road access	Access to the B1.	Use existing roads.	The B1 is currently being reconstructed and there is no service road to the site. The B1 is accessed directly. This will change in future, with a service road to be constructed.

3 LEGAL FRAMEWORK

The table below lists the legislation which is applicable to the plant. The applicable permit requirements and actions are indicated in red.

Table 3: Regulatory requirements at Okupuka Feedmill (actions in red)

LEGISLATION	PROVISIONS	REGULATORY AUTHORITY	PROJECT IMPLICATION	CONTACT PERSON
Environmental Management Act (No 7 of 2007) and Regulations (2012)	Schedule: Activities include the storage of diesel and fuel on the site. The Health and Safety Regulations and the General health act are applicable in terms of the emissions (noise and dust) on site.	Ministry of Environment and Tourism (MET), Directorate of Environmental Affairs (DEA)	An ECC is due for the plant. The ECC needs to be renewed every three years. The requirements in the Environmental Management Plan need to be implemented.	Deputy Director: Environmental Affairs Ms. Saima Angula Tel: +264 61 2842713 Saima.angula@met.gov.na
Labour Act (1992) and its Regulations	135 (f): <i>"the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery in connection with the structure of such buildings or otherwise in order to prevent or extinguish fires, and to ensure the safety, in the event of fire, of persons in such buildings;"</i>		The act specifies the measures to be taken to secure the safety and the preservation of the health and welfare of employees at work. There are various specifications that are applicable including person protective clothing (PPE), reporting of incidents, safety of machinery including the boiler, the appointment of a safety representative, etc. An application for the registration of a factory needs to be made.	Min of labour,, Industrial Relations and Employment Creation Dep Director: health and Safety Ms Petrina Nghidengwa +264 61 2066302 Petrina.Nghidengwa@mol.gov.na

Fertilizers, Farm Feeds, Agricultural Remedies And Stock Remedies (Act 36 Of 1947).	1(a): "Application for registration of a fertilizer, farm feed, agricultural remedy, stock remedy, sterilizing plant or pest control operator shall be made to the registrar in the prescribed manner and shall be accompanied by the prescribed application fee."	Ministry of Agriculture Water and Forestry (MAWF)	Registration of products, including animal feed, crop fertilizers and pesticides.	
Hazardous Substances Ordinance 14 of 1974	Control of substances which may cause injury or ill-health or death of human beings because of their toxic, corrosive, irritant, strongly sensitizing or flammable nature, and for the control of certain electronic products and radioactive material.	Ministry of Environment and Tourism (MET)	The act has no hazardous substances list as yet. A list is contained in the Health and Safety Regulations. The handling, storage and disposal of hazardous substances on the Project Site should be carefully controlled.	
Petroleum Products and Energy Act, (No. 13 of 1990)	Approval for the storage of more than 600ℓ of fuel on site.	Ministry of Mines and Energy (MME)	A Consumer Installation Licence needs to be obtained	Control Admin Officer Mrs.Tjingovera-b pingasana Tel: 284 8271 Email:Codla.Tjingovera@mme.gov.na

<p>Soil Conservation Act 76 of 1969</p>	<p>Prevention and combating of soil erosion; conservation, improvement and manner of use of soil and vegetation, and protection of water sources.</p>	<p>Ministry of Environment, Forestry and Tourism (MEFT)</p>	<p>Soil pollution prevention is to be implemented generally. There are no regulations.</p>	
<p>Atmospheric Pollution Prevention Ordinance 11 of 1976</p>	<ul style="list-style-type: none"> Part IV - dust control 	<p>Ministry of Health and Social Services (MHSS)</p>	<p>Dust control to be ensured. No permits required.</p>	
<p>Nature Conservation Ordinance No. 4 of 1975, including amendments, and Forest Act 12 of 2001, as amended in 2005 and the regulations 2012 includes the list of protected species (Government Gazette No. 5801).</p>	<ul style="list-style-type: none"> List of Protected species 	<p>Ministry of Environment, Forestry and Tourism (MEFT)</p>	<p>Identify any potential protected tree species on the area to be cleared for depot. Adapt design/layout to incorporate trees and specifically tree species as far as possible. If any, obtain harvesting permit for them.</p>	<p>Deputy Director: Forestry Management (South & Central Regions) Ms. Florence Sibanda Tel: +264 61 208 7633 Email: Florence.Sibanda@mawf.gov.na</p>

4 DESCRIPTION OF THE RECEIVING ENVIRONMENT

In this table we provide some key features of the project site below, to assist in determining management priorities.

Table 4: Salient environmental and social features of the project site ¹

ENVIRONMENTAL FEATURE	DESCRIPTION	SENSITIVITIES	POTENTIAL IMPACTS OF PROJECT ON FEATURE
Rainfall	350 – 400 mm per year (with climate change seems to be decreasing and becoming more unpredictable).	Capacity of the environment to absorb impacts is lower than in wetter areas.	Places strain on water consumption. Polluted stormwater may cause soil, surface water and groundwater pollution.
Temperature	Average daily maximum temperatures 31°C and minimum of 17°C.	High temperatures in summer.	Exhaustion, heat strokes, dehydration.
Wind Direction	Prevailing wind direction is north-easterly, westerly more significant in August and early September.	Dust in windy conditions on site	Dust
Surface water drainage	Drainage toward Dobra and Otjivera River west of the site	Surface water pollution from drainage may contribute to pollution in the Swakoppoort Dam.	Surface water pollution
Groundwater hydrology	Moderate groundwater potential in the area – fractures aquifers. Site specifics unknown, but groundwater likely to be found toward the Dobra River.	Riverbeds, open soil.	Groundwater pollution if pollutants come in contact with open soil and are allowed to wash to nearby riverbeds.
Vegetation and	Thornbush savanna surrounds –	Ecological imbalance on site	Attraction of rodents,

¹ Christellis, Struckmeier, et. Al (2002). Groundwater in Namibia – an explanation to the Hydrogeological map. Mendelsohn et al. 2009. Atlas of Namibia. A portrait of the land and its landscapes. David Phillip Publishers.

fauna	cleared from site	– attraction of pests, aesthetical value lost.	reptiles and insects. Loss of cooling effect and aesthetic value of plants. Loss of vegetation and protected tree species during clearance of new storage warehouse extension.
Land use and sensitive receptors	Site is surrounded by Namib Poultry Industries. Land use density is low. To the East the B1 highly is being constructed. Game farming to the east of the highway. No sensitive receptors identified.	None.	Dust and noise and other nuisances only applicable to workforce and visitors.

It is concluded that the site environmental and social sensitivities are relatively low, and this combined with the relatively low intensity, magnitude and scope of most of the activities in their ability to cause environmental and social risk, rates potential environmental and social impacts and risks to be relatively low. There are sufficient management actions to curb environmental and social risks on the site, and these need to be maintained and implemented where there are currently gaps. The priority gaps are to action the legal requirements (Section 3) and to aim for continual improvement regarding the standards, particularly pertaining to Health and Safety standards). The actions to be implemented are listed in the next section.

5 MANAGEMENT PLAN

5.1 WHAT IS AN ENVIRONMENTAL MANAGEMENT PLAN (EMP)?

An EMP is a list of management actions needed to ensure that negative environmental and social impacts of the project are avoided or minimised. It assigns responsibilities and is used as a checklist by the Owner and the Ministry to ensure potential problems are avoided and problems rectified. By implementing this plan, the Owner reduces its liability in terms of environmental damage.

5.2 WHAT ARE THE LEGAL IMPLICATIONS AND MY OBLIGATIONS UNDER THIS PLAN?

This EMP with all its contents will be submitted to the Department of Environmental Affairs in the Ministry of Environment and Tourism. The implementation of an EMP is required in terms of the Environmental Management Act of 2007. The MET will issue a Environmental Clearance Certificate to the Owner, which places it under a legal obligation to implement the contents of the EMP.

The EMP, once approved, therefore becomes a legally binding document and each role-player identified in the EMP is required to abide to the conditions stipulated in it. .

5.3 GENERAL REQUIREMENTS FOR THE EMP

5.3.1 EMP ADMINISTRATION

This EMP shall form an integral part of each process and all personnel should be aware of the specifications contained in this document. A copy of the EMP shall be kept at the site office at all times and all senior personnel shall be expected to familiarize themselves with the contents of this document.

5.3.2 ROLES AND RESPONSIBILITIES

The entire responsibility of implementing the EMP and ensuring sound environmental management during each phase of the project lies with Feedmaster. The developer will need to identify an Environmental Control Officer (ECO), who can be an existing employee within the Company to which these tasks are assigned. The responsibilities of such a person are contained below.

5.3.3 ENVIRONMENTAL CONTROL OFFICER (ECO)

The ECO will be a competent person identified by the developer to fulfil the role as the representative to monitor and review the on-site environmental management and implementation of this EMP by the Owner. The ECO will be required to be on site on a daily basis and his/her duties will include the following:

- Ensuring that the necessary environmental authorizations and permits have been obtained.
- Maintaining open and direct lines of communication between the developer and Interested and Affected Parties (I&APs) with regard to environmental matters.
- Regular site inspections of all construction areas with regard to compliance with the EMP.
- Monitoring and verifying adherence to the EMP, monitoring and verifying that environmental impacts are kept to a minimum.
- Taking appropriate action if the specifications are not followed.
- Assisting the Owner in finding environmentally responsible solutions to problems.
- Monitoring the undertaking by the Owner of environmental awareness training for all new personnel coming onto site.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the EMP and compliance with authorization on a monthly basis.
- Undertaking a continual review of the EMP and recommending additions and/or changes to the document.

5.3.4 LEGAL COMPLIANCE

The following actions are a priority for the Okapuka Site and are to be actioned right away.

SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
Obtaining permits	Failure to obtain the required permits.	<p>Permits should be required for the following actions (see Section 3):</p> <ul style="list-style-type: none"> • A Consumer Installation Certificate needs to be obtained from the Ministry of Mines and Energy for the storage of fuels on site, including the additional fuel storage area in the planned storage warehouse area. • A permit for a factory needs to be obtained in terms of the Health and Safety Regulations. • A harvesting permit needs to be obtained for the removal of any potential protected tree species with the construction of the new storage warehouse. • Permits need to be updated when they expire, e.g. the Environmental Clearance Certificate every three years. 	ECO to ensure that all permits are on file.	ECO
Maintaining legal standards	Failing to comply with legal standards and requirements	<p>All applicable Acts, notably the Health and Safety Regulations, Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (36 Of 1947) and application sections of the Environmental Management Act should be studied in order to be aware of liabilities and to ensure that standards are being maintained.</p> <p><i>This EMP is not inclusive of all the requirements of these acts, and it is the responsibility of the Owner to ensure that they are familiar with them and that they are implemented.</i></p>	ECO listing all applicable standards and checking them annually.	ECO
Poor authority relations	Lack of contact with authority stakeholders	Identify and build relations with key persons at the relevant authorities and ensure their requirements are met and maintained.	Contact list updated regularly.	ECO

5.3.5 ACTIONS TO IMPROVE ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
Natural environment				
Soil, surface and groundwater pollution	Refuelling of vehicles on the site, broken or unused vehicles parked on the site	<ul style="list-style-type: none"> The workshop area and wash bay should have an oil trap to where oils and lubricants drain. All vehicles should be regularly maintained to avoid oil leaks. Spills should be immediately cleaned by removing the contaminated soil and disposing of it with hazardous waste in a sealed container for removal to the Kupferberg Waste Disposal Site. 	Regularly check the functioning of the oil traps. Check all vehicles for oil leaks. Check ground surfaces for signs of leaks. Clean up contaminated soil and treat as hazardous waste.	ECO to monitor.
Impact on Natural Resources (e.g. Water and Electricity) and infrastructure				
Impact on natural resources and infrastructure	Environmental awareness raising	<ul style="list-style-type: none"> Training is required to make staff aware of environmental management issues on site. Share the relevant contents of this EMP 	Attendance list to be signed by all participants. Constantly identify the need for training when	ECO

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SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
		<p>and the importance of environmental management and avoiding degradation.</p> <ul style="list-style-type: none"> • The training session should particularly focus on water and electricity conservation, general housekeeping requirements and health and safety training. Integrate this with existing training efforts. • To be repeated and re-iterated constantly. • To be made part of induction training for all staff. 	<p>there are trends of non-compliance.</p>	
	<p>Use of natural resources</p>	<p>Water usage:</p> <ul style="list-style-type: none"> • Record water consumption in kilolitres every month. • Apply good water management practices (e.g. repair leaking toilets, taps and pipes and equipment). • Investigate the water usage of the boiler and possible saving opportunities. 	<p>ECO to keep record of water and electricity usage, as well as problem areas and improvements made on an annual basis.</p>	<p>ECO, developer</p>

SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
		<ul style="list-style-type: none"> • Aim to decrease water consumption by 10% over every 12 month period. <p>Electricity usage:</p> <ul style="list-style-type: none"> • Record, on a monthly base, the energy consumption in kw/h. • Investigate the feasibility of combining alternative energy sources, e.g. solar power. • Continuously be alert of power consumption patterns and address any major changes possibly pointing to a fault in the plant. • Aim to decrease electricity consumption by 10% over every 12 month period. 		
Health and Safety of workers				
Health and Safety	Activities jeopardizing the safety of workers.	The developer must adhere to the regulations pertaining to Health and Safety, including the provision of protective clothing.	The presence and functionality of the prescribed PPE should regularly be checked by	ECO. Owner to provide required materials.

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SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
		Regular training is to be offered in terms of the regulations. All requirements listed under the Labour Act should be adhered to and communicated to the workforce. Reporting including incident reports are to be kept.	the ECO.	
		Regularly measure noise and dust levels. Check all exposure limits. Make changes and implemented PPE where levels exceed acceptable exposure limits.	Records of noise and dust levels.	ECO
		Regular health inspections of the workforce.	Record results of all health inspections.	ECO
		Regular inspections of the possible occurrence of rodents and reptiles.	Record and rectify as applicable.	ECO
Waste Management				
Contribution to global and local waste volumes and loads on waste disposal sites	Generation of large volumes of waste	Record waste volumes generated monthly Investigate ways to reduce general waste Confirm that waste is removed by a recycling company (through NPI)	Monthly waste volumes	ECO

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SIGNIFICANT ENVIRONMENTAL IMPACTS REQUIRING MITIGATION	SOURCES OF IMPACTS	MITIGATION MEASURES	MONITORING ACTIONS AND METHODS	RESPONSIBILITIES FOR IMPLEMENTATION
		<p>Make staff aware of waste management issues globally and the need to reduce waste.</p> <p>Explore opportunities for waste reduction with staff.</p>		

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5.4 MONITORING

It is recommended that the monthly monitoring for all volumes, incidents, non-compliances, etc. be recorded and combined with health and safety reporting. A simple procedure not too cumbersome with which provides quick stats to Management is essential. The salient statistics are:

- Number of and names of staff trained
- Noise levels,
- Dust levels,
- Non-compliance of Health and Safety measures,
- Injuries on site,
- Medical results
- waste volumes
- Water consumption
- Electricity consumption
- Leaks detected and repaired
- Spills detected and cleaned up
- Other nuisances and malfunctions detected and addressed.

MONITORING SHEET

The goal of the environmental management and monitoring system is:

1. Fulfillment of legal requirements
2. Continual improvement of environmental performance
3. Achievement of environmental objectives

ASPECT BEING MEASURED	OBJECTIVE	COMPLIANCE	ACTION	TIME FRAME
Environmental Management	ECO Appointed and EMP integrated with HSE responsibilities	Not compliant	Existing HSE Officer to be communicated the new responsibilities, the same be studied and integrated with current HSE tasks.	ASAP
Permits	All permits are obtained and kept up to date.	Partially compliant.	Obtain: Consumer Installation Licence (for fuel storage facilities) Harvesting permit for potential protected tree	Immediate In place before

ASPECT BEING MEASURED	OBJECTIVE	COMPLIANCE	ACTION	TIME FRAME
			species on new storage warehouse area Update: Fitness Certificate Environmental Clearance Certificate	vegetation clearance Update on expiration dates 31 March 2023 2025 – at given date on this ECC
Staff training	All staff trained for all HSE matters on provided dates	Partially compliant	Incorporate basic environmental principles (e.g. water conservation, zero pollution and waste avoidance, etc.) as put out in the EMP, into the training modules of all staff, as	Incorporate with existing training schedule.

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ASPECT BEING MEASURED	OBJECTIVE	COMPLIANCE	ACTION	TIME FRAME
			appropriate.	
Noise levels	Noise levels within statutory levels	Partially compliant	Bring noise levels within statutory levels as per the attached hygiene report (Appendix D)	ASAP
Dust levels	Dust levels within statutory levels	Compliant except for one sample	Use correct PPE according to Appendix D.	ASAP
Health and Safety compliance	Compliance with Health and Safety Regulations and zero accidents and incidents	Partially compliant (See Appendix E)	Continue to monitor health and safety accidents and incidents and implement recommendations in Appendix E.	Ongoing and as per schedule.
Waste volumes	Conduct waste survey, identify ways to reduce, reuse and recycle – divide	Survey conducted.	Conduct a strategy to reduce waste volumes on site and incorporate into	Schedule into ensuing three-year period.

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ASPECT BEING MEASURED	OBJECTIVE	COMPLIANCE	ACTION	TIME FRAME
	a strategy for continual improvement		management systems.	
Water consumption	5% improvement on water consumption per capita year	Complaint Implement conservation measures over time	Record spills and leaks. Identify areas where water conservation may be implemented – e.g. training, low flow taps and showers at new storage warehouse.	With planning of storage warehouse. Identify, plan and budget over ensuing three-year period.
Electricity consumption	5% improvement on electricity consumption per capita year	Complaint Implement conservation measures over time	Record and analyse monthly and yearly electricity consumption. Identify areas of potential electricity conservation – e.g. solar systems installed at new storage warehouse and at existing plant, operational measures.	With planning of new storage warehouse. Identify. Plan and budget over ensuing three-year period.

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ASPECT BEING MEASURED	OBJECTIVE	COMPLIANCE	ACTION	TIME FRAME
Spills	Zero spills per year	Compliant.	Immediate clean-up of spills and logging of data. Rectify the cause for the spill.	With occurrence.
Other	Continuous rectifying of environmental issues on site, e.g. rodents, snakes, fires, social responsibility.	N/a	Identify any additional matters and record as applicable.	

**APPENDIX F: PROOF APPLICATION FOR CONSUMER
INSTALLATION LICENCE**