



Application Reference : Gaut 002/24-25/E0003

PROPOSED DEVELOPMENT OF A NEW MALTING PLANT IN SEDIBENG DISTRICT MUNICIPALITY

APPENDIX H – EMPR

REPORT

Proposed Development of a New Malting Plant in the Sedibeng District Municipality, Gauteng Province (Ref Gaut 002/24-25/E0003)

Environmental and Social Management Plan

Client: Soufflet Malting South Africa

Reference: MD6264-RHD-XX-XX-RP-X-0001

Status: Final/02

Date: 11 October 2024



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Table of Contents

1	Introduction	1
1.1	Overview	1
1.2	Purpose of the ESMP	1
1.3	Objectives of the ESMP	3
1.4	Details of the Applicant	5
1.5	Details of the Environmental and Social Impact Assessment Team	5
1.6	Report Structure	5
2	Project Context	8
2.1	Process Description	8
2.2	Malting Technology	9
2.3	Components of the Project	10
2.4	Energy Requirements	11
2.5	Sensitivity Map	11
3	Policy and Legal Framework	13
3.1	Key National Legislation	13
3.2	Other Relevant National Acts, Guidelines and Policies	17
3.3	International Conventions, Standards, Guidelines and Practices	18
4	Management and Monitoring Procedures	22
4.1	Organisational Structure and Responsibilities	22
4.2	Monitoring	28
4.3	Reporting Procedure	28
4.3.1	Documentation	28
4.3.2	Environmental Register	28
4.3.3	Method Statements	29
4.3.4	Environmental Emergency Response	30
4.3.5	Written Warning Notification(s)	31
4.3.6	Public Communication and Liaison with I&APs	31
4.4	Training and Environmental Awareness	31
4.4.1	Activity Specific Topics	32
4.4.2	Take-home Topics	33
5	ESMP: Pre-Construction Phase	34
5.1	Authorisation, Licences, Permitting and Approval Plan	34
5.2	Contractor Appointment Plan	35
5.3	Environmental Awareness Training Plan	36

5.4	Stakeholder Engagement Plan	37
5.5	Site Preparation Plan	38
6	ESMP: Construction Phase	40
6.1	Site Establishment Plan	40
6.2	Soil Management Plan	42
6.3	Vegetation Clearing Plan	44
6.4	Fauna Management Plan	44
6.5	Ground- and Surface Water Resources Protection Plan	45
6.6	Spills, Incident and Pollution Control Plan	46
6.7	Hazardous Substances Management Plan	47
6.8	Water Supply Plan	48
6.9	Stormwater Management Plan	48
6.10	Batching Plants Management Plan	49
6.11	Noise Management Plan	50
6.12	Dust and Emissions Plan	51
6.13	Waste Management Plan	52
6.14	Traffic Management Plan	53
6.15	Fire Management Plan	54
6.16	Heritage and Palaeontological Resources Management Plan	55
6.17	Social and Labour Management Plan	58
6.18	Health and Safety Plan	59
6.19	Security Management Plan	60
7	ESMP: Post-Construction Rehabilitation Plan	61
8	ESMP: Operational Phase	62
8.1	Stakeholder Management Plan	62
8.2	Social and Labour Management	63
8.3	Protection of Ground-and Surface Water Resources Protection Plan	63
8.4	Hazardous Substances Management Plan	64
8.5	Spills, Incident and Pollution Control Plan	65
8.6	Water Supply Plan	66
8.7	Noise Management Plan	66
8.8	Dust, Emissions and Odour Management Plan	67
8.9	Waste Management	69

9	ESMP: Decommissioning Phase	70
10	Monitoring Plans	71
10.1	Geohydrological Monitoring	71
10.2	Air Quality	73
10.2.1	Ambient Monitoring	73
10.2.2	Source Monitoring	73
10.3	Climate Change Reporting	74
11	Compliance with Environmental Specification	75
11.1	Removal from Site and Suspension of Works	76

Table of Tables

Table 1-1: Phases of the project life cycle	4
Table 1-2: Applicant details	5
Table 1-3: ESIA team	5
Table 1-4: Compliance with Appendix 4 of the EIA Regulations, 2014 (as amended)	5
Table 2-1: Project components	10
Table 3-1: Key national legislation considered	13
Table 3-2: Other relevant acts, guidelines and policies	17
Table 3-3: International conventions, agreements and frameworks	18
Table 4-1: Roles and responsibilities	23
Table 10-1: Proposed monitoring borehole drilling positions	72
Table 11-1: Penalties applicable	75

Table of Figures

Figure 1-1: Locality map	2
Figure 1-2: Mitigation hierarchy	3
Figure 1-3: Deming cycle of continuous improvement	4
Figure 2-1: Malting process	9
Figure 2-2: Environmental sensitivity map	12
Figure 4-1: Project organisational structure	22
Figure 10-1: Proposed monitoring boreholes locations	72
Figure 10-2: Proposed concept borehole construction	73



Appendices

Appendix A : ESIA Team CVs

Appendix B: Maps

Appendix C: Stakeholder Engagement Plan

Appendix D: Impact Ratings

Acronyms

Acronym	Acronym description
<u>AQMP</u>	<u>Air Quality Management Plan</u>
BBBEE	Broad-Based Black Economic Empowerment
BOD	Biological Oxygen Demand
CHP	Combined Heat and Power
CLO	Community Liaison Officer
COD	Chemical Oxygen Demand
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESO	Environmental Site Officer
EVs	Electric Vehicles
GDARDE	Gauteng Department of Agriculture Rural Development and the Environment
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
GPMEF	Gauteng Province Environmental Management Framework
GWh	Gigawatt hour
HD	Historically Disadvantaged
IFC	International Financial Corporation
LNG	Liquified Natural Gas
LRA	Labour Relations Act (Act No. 66 of 1995)
MSDS	Material Safety Data Sheets
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NAP	National Action Plan
NCR	Non-Conformance Report

NEMA	National Environmental Management Act (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act (Act No 39 of 2004)
NEM:WA	National Environmental Management: Waste Act (Act No. 59 of 2008) as amended
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organisations
NWA	National Water Act (Act No. 36 of 1998)
OHS	Occupational Health and Safety
PM	Project Manager
PPE	Personal Protective Equipment
PS	Performance standards
SAHRA	South African Heritage Resource Agency
SDGs	Sustainable Development Goals
SDC	Safe Disposal Certificate
SHEQ	Safety Health Environment and Quality
SEMA	Specific Environmental Management Acts
SEP	Stakeholder Engagement Plan
SLA	Service Level Agreement
SWMP	Stormwater Management Plan
TDS	Total Dissolved Solids
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC CoP21	United Nations Framework Convention on Climate Change 2021
<u>VOCs</u>	<u>Volatile Organic Compounds</u>
WWTP	Wastewater Treatment Plant

Glossary

Glossary Term	Glossary Text
Accident	An unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury.
Activity (Development)	An action either planned or existing that may result in environmental impacts through pollution or resource use. For the purpose of this report, the terms 'activity' and 'development' are freely interchanged.
Applicant	The project proponent or Developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.
Buffer	A buffer is seen as an area that protects adjacent communities from unfavourable conditions. A buffer zone is usually an artificially imposed zone included in a management plan.
Building and Demolition Waste	Building and demolition waste means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition.
Client's Project Manager	The person appointed by the client who is responsible for the construction site as a whole.
Contractor	Companies appointed on behalf of the Developer to undertake activities, as well as their sub-contractors and suppliers.
Construction Project Management Team	The team consists of a Project Manager as well as an Environmental Site Officer.
Degradation	The lowering of the quality of the environment through human activities or other activities e.g. river degradation, soil degradation.
Domestic Waste	Domestic waste means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreation purposes.
Emergency	An undesired event that results in a significant environmental impact and requires the notification of the relevant statutory body such as a local or provincial authority.
Environment	In terms of the National Environmental Management Act (NEMA) (Act No. 107 of 1998) (as amended), "Environment" means the surroundings within which humans exist and that are made up of: <ul style="list-style-type: none"> (i) the land, water and atmosphere of the earth; (ii) micro-organisms, plants and animal life; (iii) any part or combination of (i) of (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.
Environmental Aspect	An environmental aspect is any component of a Contractor's construction activity or process that is likely to interact with the environment.

Environmental Control Officer	An individual appointed through the Developer to be present on-site to act on behalf of the Developer in matters concerning the implementation and day to day monitoring of the Environmental and Social Management Plan and conditions stipulated by the authorities.
Environmental Impact	A change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products or services.
Environmental and Social Management Plan	A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts, and, limiting or preventing negative environmental impacts are implemented during the life-cycle of a project. It is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction and operation, long-term maintenance, and, decommissioning of a project are prevented and that positive benefits of the projects are enhanced.
General Waste	General waste means waste that does not pose an immediate hazard or threat to health or to the environment, and includes - <ul style="list-style-type: none"> (i) domestic waste; (ii) building and demolition waste; (iii) business waste; and (iv) inert waste.
General Landfill Site	Waste A waste disposal site that is designed, managed and permitted to allow for the disposal of general waste.
Hazardous Landfill Site	Waste A waste disposal site that is designed, managed and permitted to allow for the disposal of hazardous waste.
Impact	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization’s environmental aspects.
Mitigation Re-use	Measures designed to avoid, reduce or offset adverse impacts. To utilise articles from the waste stream again for a similar or a different purpose without changing the form of properties of the articles.
Recycle	A process where waste is reclaimed for further use, this involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material.
Rehabilitation	Rehabilitation is defined as the return of a disturbed area to a state which approximates the state (where possible) which it was before disruption. Rehabilitation for the purposes of this specification is aimed at post-reinstatement re-vegetation of a disturbed area and the insurance of a stable land surface. Re-vegetation must aim to accelerate the natural succession processes so that the plant community develops in the desired way, i.e. promote rapid vegetation establishment.
Road Reserve	A corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.
Safety, Health and Environmental (SHE) Officer	The SHE Officer is a Contractor representative, responsible for the safety, health and environmental aspects during construction. The SHE Officer will be responsible for the day-to-day monitoring of the ESMP and Health and Safety Plan (maybe identified as the Environmental Site Officer).
Waste	Waste means any substance, whether or not that substance can be reduced, re-used, recycled and recovered - <ul style="list-style-type: none"> (i) that is surplus, unwanted, rejected, discarded, abandoned or disposed of; (ii) which the generator has no further use of for the purposes of production; (iii) that must be treated or disposed of; or (iv) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but— <ul style="list-style-type: none"> o a by-product is not considered waste; and

- any portion of waste, once re-used, recycled and recovered, ceases to be waste.

Waste Facility	Disposal	Waste disposal facility means any site or premise used for the accumulation of waste with the purpose of disposing of that waste at that site or on that premises.
Workforce		The entire project team including people employed by the Contractor, persons involved in activities related to the project, or person present at or visiting the construction area, including permanent contactors and casual labour.

1 Introduction

1.1 Overview

The Soufflet Group has developed expertise in process management to achieve high quality malt and optimize energy consumption. Soufflet Malt South Africa (Pty) Ltd (“Soufflet Malt”), a subsidiary of the Soufflet Group, has obtained funding from the International Finance Corporation (IFC) for the establishment of a malt plant which will be located in the Sedibeng District, Gauteng (“The Project”) - Figure 1-1. The Project, which is expected to be operational for 50 years, will have an annual capacity of 100kT/year in Phase 1 and 135kT/year in Phase 2 for the local market. It should be reiterated that the proposed Project is an acceleration of the natural process of germination in a controlled environment. No fermentation takes place in the malting process. Further to this, the malting plant is not an extension to the Sedibeng Heineken Brewery and both facilities are separate entities.

The Project is envisaged as an import substitution and enhancement of barley production in the agricultural sector in South Africa. The beer sector in South Africa contributes to roughly 1 in every 66 jobs in the country, with the supply chain comprising farmers, packaging manufacturers, brewers, distributors, and retailers.

Soufflet Malt South Africa has appointed Royal HaskoningDHV to provide independent Environmental Assessment Practitioner (EAP) services for the proposed Project. The Project must comply with national legislation specifically the EIA Regulations 2014 (as amended) and the IFC Performance Standards (PS) and Good International Industry Practice (GIIP).

This document constitutes the Environmental and Social Management Plan (ESMP) that identifies for each impact, the mitigation, monitoring and management measures to be taken during the various phases of the Project to avoid, reduce, mitigate, or compensate for adverse environmental and social impacts.

1.2 Purpose of the ESMP

The purpose of the ESMP is to prescribe mitigation and management measures to ensure social and environmental impacts, risks and liabilities identified during the ESIA study are effectively managed during the life-cycle of the Project and to further ensure the enhancement of the positive environmental benefits of the development are achieved.

Core to the purpose of the ESMP is to implement the ‘mitigation hierarchy’ (DEA et al., 2013¹), which is illustrated in Figure 1-2.

¹ Department of Environmental Affairs, Department of Mineral Resources, Chamber of Mines, South African Mining and Biodiversity Forum, and South African National Biodiversity Institute. 2013. Mining and Biodiversity Guideline: Mainstreaming biodiversity into the mining sector. Pretoria.



Figure 1-1: Locality map

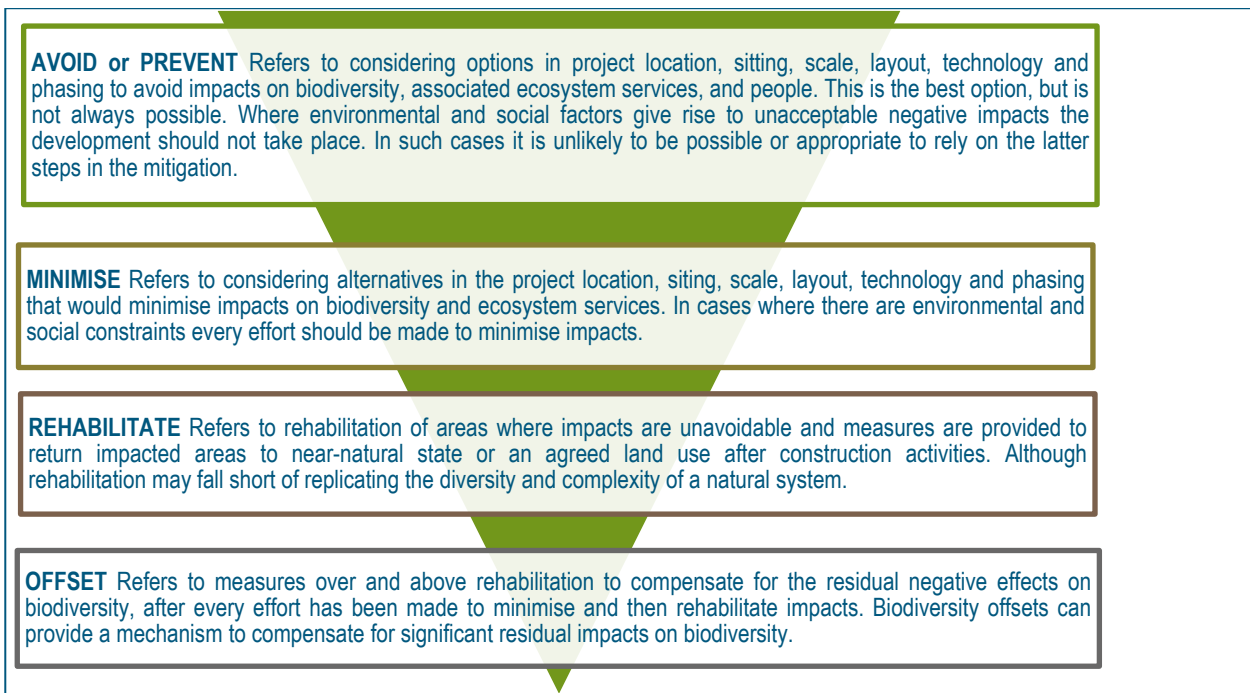


Figure 1-2: Mitigation hierarchy

An ESMP bestows a ‘Duty of Care’ on those who cause, have caused or may in the future cause pollution or degradation of the environment. It must be noted that this ESMP is a dynamic document which must be updated as required on a continuous basis.

1.3 Objectives of the ESMP

Key objectives of the ESMP are as follows:

- Implementing mitigation measure that will include feasible measures to prevent significant adverse impacts or reduce them to acceptable levels.
- Implementing monitoring requirements that ensure that the identified mitigation measures are taken into account, implemented properly and are sufficient measures for protecting the environment and environment resources, local communities, and workers.
- To ensure continuing compliance with legal requirements and government policies;
- To provide assurance to regulators and stakeholders that their requirements with respect to Environmental performance will be met.

It must be noted that the ESMP is a dynamic document that can be periodically reviewed and updated as required. The approach adopted for this ESMP is derived from the Deming Cycle (Figure 1-3), a cycle of continuous improvement that entails the reiterative actions of plan, do, check, act, and critically to then return to the planning phase. When applicable, changes to the ESMP are to be approved in accordance with legislative requirements.

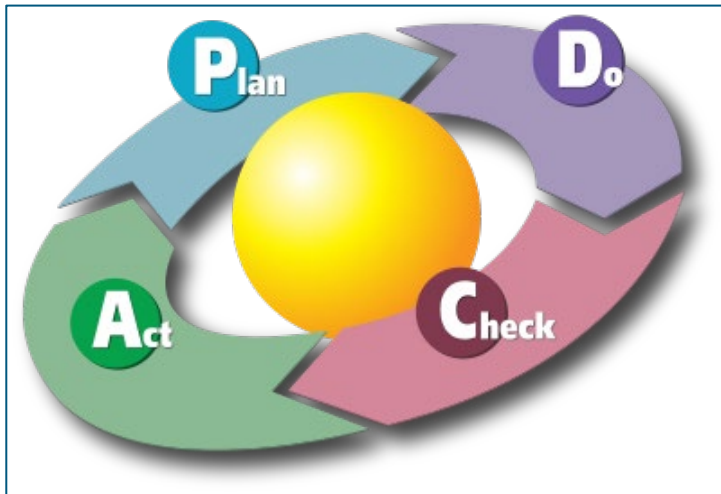


Figure 1-3: Deming cycle of continuous improvement

The provisions of this ESMP are binding on the Developer and the appointed Contractor during the construction activities (including rehabilitation) as well as the operational phase. It is essential that the ESMP requirements be carefully studied, understood, implemented, and adhered to always. To simplify the ESMP requirements, each aspect related to the ESMP has been addressed in Chapters 0 - 1. The scheduling, responsible party and monitoring requirements are indicated for each action within the ESMP.

The main components in the ESMP that provides mitigation and management measures are outlined in Table 1-1 below.


Table 1-1: Phases of the project life cycle

Phase	Description
Pre-Construction (Section 0)	This section will provide guidelines on pre-construction activities including site preparation; environmental induction and training and awareness and stakeholder engagement.
Construction (Section 6)	This section provides management principles for the construction phase.
Post-Construction Rehabilitation (Section 7)	This section of the ESMP provides management principles for the post-construction rehabilitation activities associated with the Project.
Operations (Section 8)	This section provides management principles for the operational phase.
Decommissioning (Section 9)	The brief section includes principles for the decommissioning phase. This section of the ESMP will be required to be revisited and updated at the time of decommissioning.

1.4 Details of the Applicant

The Applicant for the Project is Soufflet Malt South Africa, the details of the responsible person is listed in Table 1-2 below.

Table 1-2: Applicant details

Applicant		Soufflet Malt South Africa
Representative	Jeremy Antier	
[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	

1.5 Details of the Environmental and Social Impact Assessment Team

The ESIA team responsible for the preparation of the ESMP is presented below in Table 1-3.

Table 1-3: ESIA team

Consultant		Royal HaskoningDHV		
Contact Persons	Seshni Govender	Sibongile Gumbi	Prashika Reddy	
Qualification	BSc (Hons) Environmental Science	MSc Environmental Science	BSc (Hons) Geography BSc (Hons) Botany	
Professional Registration	SACNASP [REDACTED] EAPASA Registered EAP [REDACTED]	SACNASP [REDACTED] [REDACTED] EAPASA Registered EAP [REDACTED]	SACNASP [REDACTED] [REDACTED] EAPASA Registered EAP [REDACTED]	
Expertise	Refer CVs of ESIA team are provided in Appendix A .			

1.6 Report Structure

The format of the ESMP has been structured to meet both the local regulatory requirements as contained in the EIA Regulations, 2014 (as amended), as well as and the IFC PS and GIIP and presented in Table 1-4.

Table 1-4: Compliance with Appendix 4 of the EIA Regulations, 2014 (as amended)

EMPr Requirements according to Appendix 4 of GN R. 982 (326)	Section in the EMPr & Appendix
(1) An EMPr must comply with section 24N of the Act and include -	
a) Details of – <ul style="list-style-type: none"> (i) the EAP who prepared the report; and (ii) the expertise of that EAP to prepare an EMPr, including a CV. 	Section 1.5 Appendix A

EMPr Requirements according to Appendix 4 of GN R. 982 (326)	Section in the EMPr & Appendix
b) A detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description.	Chapter 2
c) A map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers.	Section 2.5 Appendix B
d) A description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including - <ul style="list-style-type: none"> (i) planning and design; (ii) pre-construction activities; (iii) construction activities; (iv) rehabilitation of the environment after construction and where applicable post closure; and (v) where relevant, operation activities. 	Chapter 5, 6, 7, 8 and 9
e) A description and identification of impact management outcomes required for the aspects contemplated in paragraph (d).	Chapter 5, 6, 7, 8 and 9
f) A description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraphs (d) will be achieved, and must, where applicable, include actions to - <ul style="list-style-type: none"> (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) comply with any prescribed environmental management standards or practices; (iii) comply with any applicable provisions of the Act regarding closure, where applicable; and (iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable. 	Chapter 5, 6, 7, 8 and 9
g) The method of monitoring the implementation of the impact management actions contemplated in paragraph (f).	Chapter 5, 6, 7, 8 and 9
h) The frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f).	Chapter 5, 6, 7, 8 and 9
i) An indication of the persons who will be responsible for the implementation of the impact management actions.	Chapter 5, 6, 7, 8 and 9
j) The time periods within which the impact management actions contemplated in paragraph (f) must be implemented.	Chapter 5, 6, 7, 8 and 9
k) The mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f).	Chapter 5, 6, 7, 8 and 9
l) A program for reporting on compliance, taking into account the requirements as prescribed by the Regulations.	Chapter 4
m) An environmental awareness plan describing the manner in which -	Section 4.4

EMPr Requirements according to Appendix 4 of GN R. 982 (326)	Section in the EMPr & Appendix
(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment.	
n) Any specific information that may be required by the competent authority.	N/A
(2) Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply. The generic EMPr is attached with applicable items noted.	N/A

2 Project Context

2.1 Process Description

The main aim of malting is to transform the food reserves of grain, which are insoluble starch and protein, into a substrate capable of dissolution and extraction by hot water during the later mashing stage to produce wort. The malting of barley for brewing utilizes and directs nature's germination process. In nature, when a seed, any seed, is planted in the ground, it takes up moisture, and with the right balance of moisture and warmth it germinates or sprouts.

Prior to kilning, the malting production process follows exactly the natural steps through steeping (the moisture up-take) and germination (the enzyme creation, protein reduction, starch simplification, and cell wall weakening). After these enzyme actions take place, modification for the purposes of the brewer is complete. Maltsters and brewers are interested in the created enzymes and the partially digested (modified) barley kernel that represent the state of the kernel at the end of germination. The maltster interrupts the germination process with kilning. In the kiln, the germinated barley is first dried to deprive the growing barley kernel of moisture to stop the germination process, and then cured at higher temperatures for colour and flavour development.

Combining the fundamentals of germination with a kilning step, results in a very simple batch malting process that involves barley, lots of water and air, and applied heat to dry and cure the malt. The key differences between a barley kernel germinating in nature and in a production malting process are the requirement to run a scheduled and repeatable production process, and the effect of massed seeds in close proximity to each other performing germination simultaneously.

The malting process needs a large amount of water and air, along with the utility infrastructure to seasonally heat and cool them. Malting is a batch process without any continuous elements. The grain in process is moved from malting vessel to malting vessel for each progressive step.

The total malting process generally takes 7 – 9 days, consisting of 2 days of steeping, 4 – 5 days of germination, and 1 - 2 days of kilning. After kilning, there is a critical cooling step before storage, followed by an aging period and the blending of batches prior to conveying.

The malting production process is illustrated in Figure 2-1:

- Barley intake and storage.
- Steeping: initiation of growth through forced grain hydration.
- Germination: controlled growth of barley to facilitate endosperm modification.
- Kilning: the termination of grain growth to fix extract potential and malt specifications through grain dehydration.
- Distribution – the kilned malt is dispatched to the Heineken Sedibeng Brewery via a conveyor system.

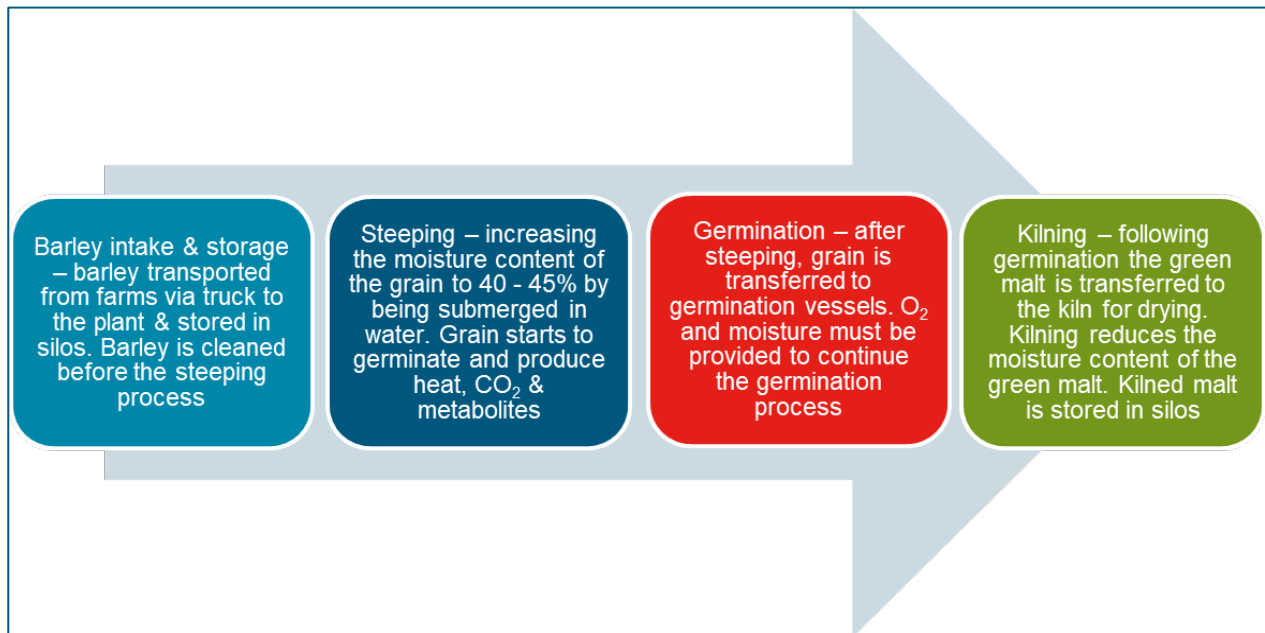


Figure 2-1: Malting process

2.2 Malting Technology

The Project will consist of stainless steel cylindro-conical steeping tanks, circular stainless steel lined germinating boxes and kilning section contained in circular building (inner stainless steel coated). Circular malting vessels are the current standard. Steeping vessels having conical bottom tanks with screen area in the cone bottom for water fill and drain, and to establish air flow with a suction fan when the barley is on air rest. Cylindro-conical tanks are simple and self-emptying. In the malting process, large quantities of water is necessary during the steeping (major share) and germination phases to transform barley into malt. During steeping the grain is immersed. During germination, the grain is kept in a moist condition by spraying. The Project uses steeping tanks designed to reduce water consumption and loss compared to traditional tanks.

Moreover, dry transfer (instead of wet transfer using water) of the steeped barley from the steeping tank to the germinating box reduces considerable amount of water. To restore clean water at the end of the process, all wastewater is processed in water treatment plants in compliance with legislation on water emissions to significantly reduce effluents.

Circular germination vessels and circular kilns have the advantages of simplified grain loading and unloading and offer improved distribution of air. There is no practical limitation on size for these vessels, generally they are constructed with a fixed floor and turning machine that pivots on a centre column while travelling on an outside rail.

During the processing of barley into malt, it is during the kilning phase that the most energy is used. The majority of the heat demand is for kilning process, with grain drying representing the largest heat energy use. At least 90% of the heat demand in a kiln is thought to be associated with the evaporation of water, in order to dry the malt to its final moisture content. Soufflet malting plant kilns will be fitted with static glass tube heat exchangers to recover some of (about 20%) vaporization energy of water (latent heat) from the air off from the kiln, to pre-heat the ambient air coming into the kiln.

The second plan for increased energy recovery that will be deployed by Soufflet malting plant is by installing open cycle heat pumps which will suit the malting process. Open cycle heat pumps differ from closed cycle

heat pumps in that they are able to use the water evaporated from the malt as the means to recover energy. A higher energy recovery factor can be achieved than possible with closed heat pumps (about 43%). The Project's energy recovery from the kilning process through fitting glass tube heat exchangers and possible installation of open cycle heat pumps achieves more than 60% recovery of the energy used in the kiln.

The final heat source will be from the combined heat and power (CHP) genset, optimizing to a very high level the global energy cycle. CHP will produce electricity that will be used by the heat pumps. Complementary heat will be coming from cooling of the CHP. This cycle, so called trigeneration, is the state of the art in term of energy optimization.

2.3 Components of the Project

The key components of the Project are outlined in Table 2-1.

Table 2-1: Project components

Proposed Building	Description
Working building	The process of barley intake, cleaning and grading and malt blending, cleaning and bulk shipping will take place at this building.
Malt buildings/infrastructure	Barley storage silos; Steeping building; Germination vessels; Kilns; Malt storage silos; Conveyor to the Heineken Sedibeng Brewery.
Energy system	<ul style="list-style-type: none"> ▪ Capacity of the CHP (including back up system) – 8 Megawatt (MW) of heating energy, 4MW of cooling energy and 3MW of electrical power through the CHP, heat pumps and heat exchangers. ▪ 70 gigawatt hour (GWh) gas for the CHP will be used. Approximately 70GWh of gas will be used per year. ▪ Capacity of the boilers (back-up) – 2 x 6MW using liquified natural gas (LNG) as a fuel source. ▪ The Solar PV Project will not form part of the scope but will be considered in future.
Water storage	<ul style="list-style-type: none"> ▪ The malting process consumes large amounts of water daily. The expected water usage for the current mandate based on the process mass energy balance spreadsheet is projected at 1000m³/day peak load. ▪ Water will either be provided by the Municipality and/or Rand Water as well as two boreholes with a combined capacity of 300m³ per day. ▪ One freshwater tank of 1000m³ available water storage volume. This volume includes 10% spare capacity for malt production usage demand for 24 hours. ▪ One process water tank of 1000m³ available water storage volume. This volume including the option to be 50% recycled water.
Wastewater storage and on-site wastewater treatment plant (WWTP)	<p>Effluent will be discharged directly into the ERWAT system.</p> <ul style="list-style-type: none"> ▪ Treatment of the following wastewater streams: <ul style="list-style-type: none"> ○ Domestic sewage/wastewater from the Administration building. ○ Industrial effluent/wastewater emanating from the washing and germination process of a maximum of 900m³/d. ○ Volume of wastewater treated per day – 575m³ (Phase 1). ○ On-site WWTP with a design capacity of 575m³ (Phase 1) and 750m³ (Phase 2). ○ Concrete tank at the bottom of the steeping building which will serve as (bulk) process effluent storage with a capacity of 1000m³.

Proposed Building	Description
Ammonia storage	Approximately 1.5 tonnes (2000m ³).
Ancillary infrastructure	Admin building, Construction laydown area, Internal conveyor system to transport grain between the Steeping building, Germination vessels, Kilning area, Bagging and chemical storage buildings, Fire pump room, gatehouse, weighbridge, truck staging area, waste pick-up area, internal access roads, staff parking.

2.4 Energy Requirements

Electricity will be generated by the CHP system while the heat generated through exhaust gases will be passed through heat pumps and heat exchangers to achieve high thermal efficiencies. Complementary heat energy will also be coming from the heat pumps in the form of cooling. This cycle, so called trigeneration, is the state of the art in term of energy optimization.

- CHP and heat pumps are commonly used in the malting activity and Soufflet Malt has extensive experience with these technologies.
- There is no need of extra energy for cooling since chilled water is a 'by-product' of a heat pump suitable for the activity.
- The local electrical network will not be unbalanced by the malting operation.
- Gas boilers will be used as a back-up system. The boilers are planned to be used only when required and will not be operated continuously.

2.5 Sensitivity Map

The environmental sensitivity map for the Project is presented below in Figure 2-2 and attached in **Appendix B**.

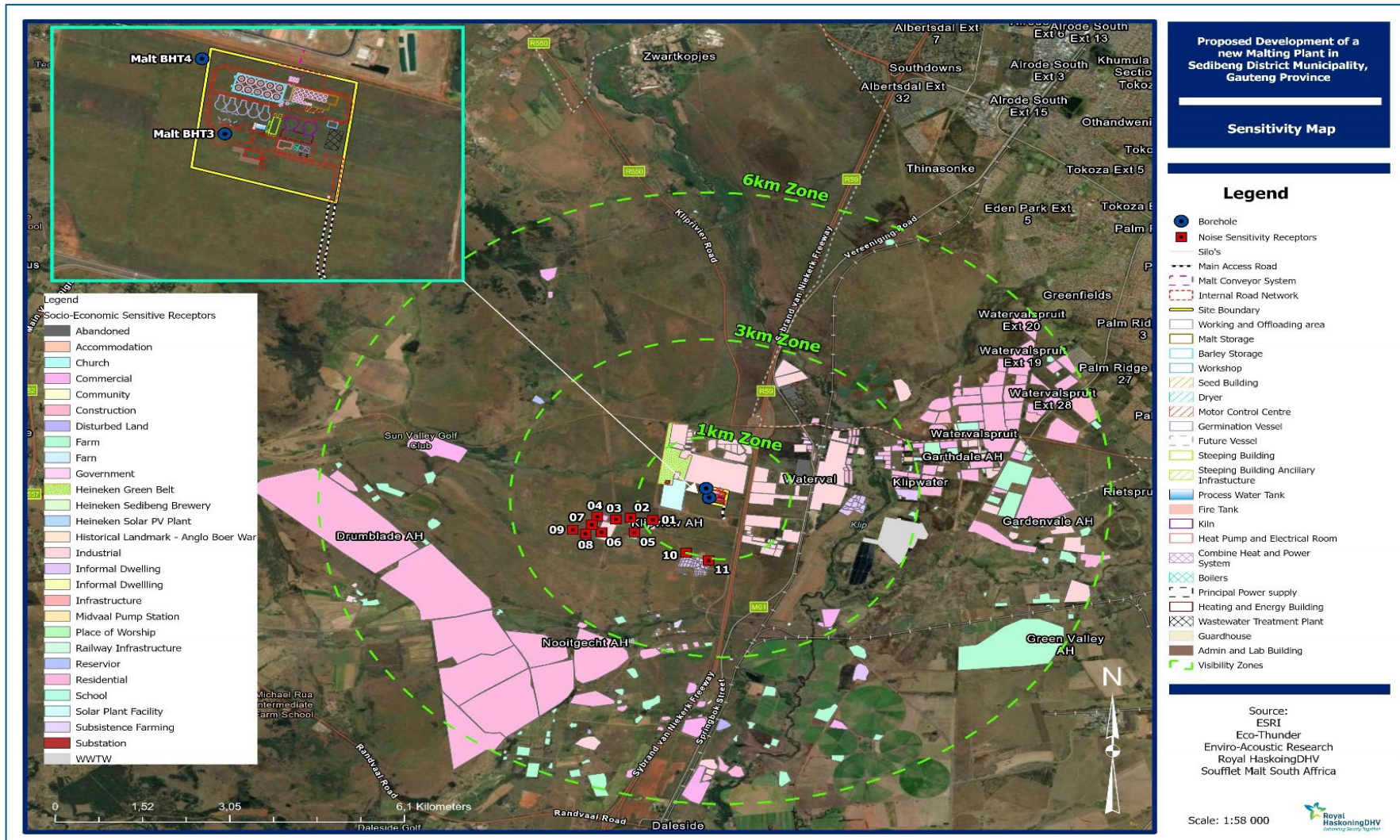


Figure 2-2: Environmental sensitivity map

3 Policy and Legal Framework

In order to protect the environment and ensure that the development is undertaken in an environmentally responsible manner, there are a number of significant environmental legislation (Table 3-1) that need to be considered during this screening study.

3.1 Key National Legislation

The key national legislation section that is applicable to the proposed Project is presented in Table 3-1.

Table 3-1: Key national legislation considered

Acts	Objectives, Important Aspects, Associated Notices and Regulations
National Environmental Management Act, 1998 (Act No. 107 of 1998)(as amended)	<p>Objectives: To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state.</p> <p>Relevant Notices and Regulations:</p> <ul style="list-style-type: none"> ▪ Environmental Impact Assessment Regulations, 2014 (GNR 326 in GG 40772 as amended on 04 April 2017). ▪ Listing Notice 1 (GNR 327) as amended. ▪ Listing Notice 2 (GNR 325) as amended. ▪ Listing Notice 3 (GNR 324) as amended. ▪ National Web-based Environmental Screening Tool – EST (2017). ▪ Gauteng Provincial Environmental Management Framework Standard (GPEMF) and Exclusion of Associated Activities from the Requirement to obtain an Environmental Authorisation (No. 164, 02 March 2018) in terms of Sections 24(2)(d) and 24(10)(a) read with Section 24(10)(d) of the National Environmental Management Act, 1998 (Act No. 107 of 1998)(as amended) for the implementation of the GPEMF). ▪ Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act - NEMA, 1998, when applying for EA in GG 43110, 20 March 2020). <p>Relevance to the proposed Project:</p> <ul style="list-style-type: none"> ▪ Development must be socially, environmentally and economically sustainable. ▪ Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated; the social, economic and environmental impacts of activities including disadvantages and benefits, must be considered, assessed and evaluated and decisions must be appropriate in the light of such consideration. ▪ 'Polluter Pays' principle. ▪ Any activity that is proposed and which is listed in the NEMA EIA Regulations, requires environmental authorisation.

Acts	Objectives, Important Aspects, Associated Notices and Regulations
	<p>Listed Activity:</p> <ul style="list-style-type: none"> ▪ Activity 2 of Listing Notice 1 - The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where— <ul style="list-style-type: none"> (i) the electricity output is more than 10 megawatts but less than 20 megawatts; or (ii) the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare. <p><i>Applicable to the combined heat and power (CHP) genset (including back up system) with 8 MW of heating energy, 4 MW of cooling energy and 3 MW of electrical power through the CHP plant, heat pumps and heat exchangers.</i></p> ▪ Activity 28 of Listing Notice 1 - The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where— <ul style="list-style-type: none"> (i) will occur inside an urban area, where the total land to be developed is bigger than 5 ha; or (ii) excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes. <p><i>Previous land use appears to have been agricultural. Activity is excluded from the requirement to obtain an EA within Zone 5 of the GPEMF Standard.</i></p> <p>A Basic Assessment study is required according to the EIA Regulations 2014 (as amended) for the triggering of Activity 2 of Listing Notice 1.</p> <p>A registration is required in terms of the GPEMF Standard as the following listed activities are excluded from the requirement to obtain an Environmental Authorisation: Listing Notice 1: Activity 13, 14, 25, 27, 28, 58 and Listing Notice 2: Activity 4.</p>
<p>National Water Act (Act No. 36 of 1998) (as amended)</p>	<p>Objectives:</p> <p>The National Water Act (NWA) is a legal framework for the effective and sustainable management of water resources in South Africa. Central to the NWA is recognition that water is a scarce resource in the country which belongs to all the people of South Africa and needs to be managed in a sustainable manner to benefit all members of society. The NWA places a strong emphasis on the protection of water resources in South Africa, especially against its exploitation, and the insurance that there is water for social and economic development in the country for present and future generations.</p> <p>Relevance to the proposed Project:</p> <ul style="list-style-type: none"> ▪ Sustainable protection, use, development and conservation of water resources – including aquatic ecosystems. ▪ Defines 11 water uses and provides licensing procedures. <p>Notices and Regulations:</p> <ul style="list-style-type: none"> ▪ Regulations on use of Water for Mining and related activities aimed at the Protection of Water Resources, GN 704 (GG 20119, 04 June 1999). ▪ Revision of General Authorisations – Section 21 (f) and (g) No 665 of 6 September 2013.

Acts	Objectives, Important Aspects, Associated Notices and Regulations
	<ul style="list-style-type: none"> ▪ General Authorisation in terms of Section 39 of the National Water Act (Act No. 36 of 1998, Water Uses Section 21 (a) and (b) (GN in GG 40243 of 02 September 2016). ▪ General Authorisation in terms of Section 39 of the National Water Act (Act No. 36 of 1998, Water Uses Section 21 (c) and (i) (GN 4167 in GG 49833 of 08 December 2023). <p>Potential Section 21 water uses:</p> <ul style="list-style-type: none"> ▪ Section 21 (a) – taking water from a water resource <i>Applicable to the abstraction of water from two boreholes for the malting process.</i> ▪ Section 21 (g) - Disposing of waste in a manner which may detrimentally impact on a water resource <i>Disposal of effluent into a water containment facility i.e. Wastewater Treatment Plant and effluent tank(s).</i> ▪ Section 21 (h) - Disposing of waste in a manner which contains waste from or which has been heated in any industrial or power generation process <i>Discarding of industrial wastewater or water which has been heated i.e. wastewater from the Kilns or Steeping and Germination buildings.</i>
National Environmental Management: Air Quality Act (Act No 39 of 2004)	<p>Objectives: The National Environmental Management: Air Quality Act (NEM:AQA)(as amended) repeals the whole of the Air Pollution Prevention Act (Act No. 45 of 1965). The purpose of NEM:AQA is thus to reform the law regulating air quality in order to protect the environment by providing measures for the prevention of pollution and ecological degradation, while, promoting justifiable economic and social development. NEM:AQA seeks to provide national standards regulating air quality monitoring management and control.</p> <p>Standards and Regulations:</p> <ul style="list-style-type: none"> ▪ Declaration of the Vaal Triangle Airshed Priority Area in terms of Section 19(5)(a) of the NEM: Air Quality Act, GNR 613, 28 May 2009. ▪ National Ambient Air Quality Standards promulgated in GN 1210 on 24 December 2009, in Government Gazette No. 32816. ▪ Listed Activities and Minimum National Emission Standards published in 2013 (GN 893, in Government Gazette No. 37054) as amended by GN 551, 12 June 2015; GN 1207, 81 October 2018 and GN 687, 22 May 2019). ▪ Air Dispersion Modelling promulgated in GN 533, in Government Gazette No. 37804 (11 July 2014). ▪ National Dust Control Regulations in GG No. 36974 R.827 (01 November 2013). ▪ Declaration of a Small Boiler as a Controlled Emitter and Establishment of Emission Standards, GG No. 831 (01 November 2013). ▪ National Greenhouse Gas Emission Reporting Regulations (03 April 2017). ▪ Declaration of Greenhouse Gases as Priority Air Pollutants, Notice 275 (21 July 2017). <p>No Atmospheric Emissions Licence is required for the Project. Based on the definition of boiler in the legislation along with the understanding of the CHP model, gas combustion rates contemplated at design stage, with</p>

Acts	Objectives, Important Aspects, Associated Notices and Regulations
	<p><i>a net heat input of 10.7MW, will require registration as a Controlled Emitter and will have annual emissions measurement and reporting requirements. It is recommended that the requirement to register as a controlled emitter in terms of Section 23 of NEM:AQA be reviewed once equipment selection has been finalised for the backup boilers, as well as the CHP.</i></p>
National Heritage Resources Act (Act No. 25 of 1999)	<p>Section 34 - No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.</p> <p>Section 35 - No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site.</p> <p>Section 36 - No person may, without a permit issued by the South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. "Grave" is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place.</p> <p>Section 38 (a) - the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length; (b) the construction of a bridge or similar structure exceeding 50m in length; (c) any development or other activity which will change the character of a site (i) exceeding 5000m² in extent.</p> <p><i>No heritage resources were located during the Heritage Impact Assessment (HIA), however, during the construction phase, if any material is unearthed a chance find procedure should be implemented.</i></p>
Labour Relations Act (Act No. 66 of 1995) (LRA)	<p>The Labour Relations Act applies to workers, employers and trade unions. The purpose of the Labour Relations Act is not only to protect everyone in the workplace but to also promote economic development, fair labour practices, peace, democracy and social development.</p>
Basic Conditions of Employment Act (Act No. 75 of 1997)	<p>The Act aims to give effect to the right to fair labour practices referred to in Section 23(1) of the Constitution by establishing and making provision for the regulation of basic conditions of employment; and thereby to comply with the obligations of the Republic as a member state of the International Labour Organisation; and to provide for matters connected therewith.</p>
Employment Equity Act (Act No. 55 of 1998)	<p>The Employment Equity Act seeks to eliminate unfair discrimination in employment, promotes the constitutional right of equality and the exercise of true democracy, achieve a diverse workforce broadly representative of our people, promote economic development and efficiency in the workforce.</p>

3.2 Other Relevant National Acts, Guidelines and Policies

Other relevant National Acts, guidelines and policies are presented in Table 3-2.

Table 3-2: Other relevant acts, guidelines and policies

Acts/Guideline/Policies/Environmental Management Instruments	Considerations
The Constitution (No. 108 of 1996)	Chapter 2 – Bill of Rights Section 24 – Environmental Rights
National Environmental Management: Waste Act (Act No. 59 of 2008) as amended	The NEM:WA and Regulations, reforms the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development; to provide for institutional arrangements and planning matters; to provide for national norms and standards for regulating the management of waste by all spheres of government; to provide for specific waste management measures; to provide for the licensing and control of waste management activities; to provide for the remediation of contaminated land; to provide for the national waste information system; to provide for compliance and enforcement; and to provide for matters connected therewith.
National Environmental Management Biodiversity Act (Act No. 10 of 2004) and Regulations: <ul style="list-style-type: none"> ▪ Threatened or protected species (GN 388) ▪ Lists of species that are threatened or protected (GN 389) ▪ Alien and invasive species regulations (GNR 506) ▪ Publication of exempted alien species (GNR 509) ▪ Publication of National list of invasive species (GNR 507) ▪ Publication of prohibited alien species (GNR 508) 	Provide for the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources.
National Biodiversity Assessment (2018)	The National Biodiversity Assessment (NBA) is the primary tool for monitoring and reporting on the state of biodiversity in South Africa. It is used to inform policies, strategies and actions for managing and conserving biodiversity more effectively.
Electricity Regulation Act No. 4 of 2006 as amended by the Electricity Regulation Amendment Act No. 28 of 2007	These regulations regulate the use and generation of electricity.
Occupational Health and Safety Act (Act No. 85 of 1993)	Section 8 - General duties of employers to their employees. Section 9 - General duties of employers and self-employed persons to persons other than their employees.
Construction Regulations (2014)	Contractors must comply with the Construction Regulations which lay out the framework for construction related activities.

Acts/Guideline/Policies/Environmental Management Instruments	Considerations
<p>Other:</p> <ul style="list-style-type: none"> ▪ Hazardous Substance Act (Act No. 15 of 1973) and Regulations ▪ Transvaal Nature Conservation Ordinance (No. 12 of 1983) ▪ Conservation of Agricultural Resources Act (Act No. 43 of 1983) ▪ Land Use Planning Ordinance (Ordinance 15 of 1985) ▪ Electricity Act (Act No. 41 of 1987) ▪ Occupational Health and Safety Act (Act No. 85 of 1993) ▪ National Road Traffic Act (Act No. 93 of 1996) ▪ Water Services Act (Act No. 108 of 1997) ▪ Civil Aviation Authority Act (Act No. 40 of 1998) ▪ South African National Standard (SANS) 10103: 2008 – The measurement and rating of environmental noise with respect to annoyance and to speech communication ▪ Civil Aviation Act (Act No. 13 of 2009) ▪ SANS 1936 Parts 1 to 4: Development of Dolomite Land (2012) ▪ Spatial Planning and Land Use Management Act (Act No. 16 of 2013) ▪ Integrated Resource Plan for South Africa (2019) ▪ National Climate Change Adaptation Strategy, Republic of South Africa, Ver UE10 (2019) ▪ Sedibeng District Municipality Draft Spatial Development Framework (2019) ▪ Midvaal Local Municipality Draft Dolomite Risk Management Policy (2020) ▪ Midvaal Local Municipality Integrated Development Plan (IDP) 2022 - 2027 	

3.3 International Conventions, Standards, Guidelines and Practices

There are a number of international conventions, agreements, and frameworks which may have relevance to the proposed Project (Table 3-3).

Table 3-3: International conventions, agreements and frameworks

Conventions, Agreements, Frameworks	
RAMSAR Convention on Wetlands (1971)	The Convention on Wetlands is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The Convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975. Since then, almost 90% of United Nation (UN) member states, from all the world's geographic regions, have acceded to become "Contracting Parties".
Convention concerning the Protection of the World Cultural and Natural Heritage 1972 (Paris)	Ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage.
United Nations Educational, Scientific and Cultural Organisation (UNESCO) Convention concerning the Protection of the World Cultural and Natural Heritage (1972)	The Convention defines the kind of natural or cultural sites which can be considered for inscription on the World Heritage List. The Convention sets out the duties of States Parties in identifying potential sites and their role in protecting and preserving them. By signing the Convention, each country pledges to conserve not only the World Heritage sites situated on its territory, but also to protect its national heritage. The States Parties are encouraged to integrate the protection of the cultural and natural heritage into regional planning programmes, set up staff and services at their sites, undertake scientific and technical conservation research and adopt measures which give this heritage a function in the day-to-day life of the community.

Conventions, Agreements, Frameworks	
Convention on Biological Diversity (29 December 1993)	The Convention has a bearing on the management of biodiversity at the study area. Countries such as South Africa that ascribe to the Convention must rehabilitate or restore degraded ecosystems through the formulation of appropriate strategies and plans.
United Nations Convention to Combat Desertification (26 December 1996)	<p>To combat desertification and mitigate the effects of drought through national action programs.</p> <p>South Africa has responded to the UN Convention to Combat Desertification by developing a National Action Plan (NAP). The aim of the NAP is to implement at current and future policies that affect natural resource management and rural development, and establish partnerships between government departments, overseas development agencies, the private sector and non-governmental organisations (NGOs).</p>
New Partnership for Africa's Development (NEPAD) (2001)	The NEPAD is an economic development program of the African Union adopted at the 37 th session of the Assembly of Heads of State and Government in July 2001 in Lusaka, Zambia. Wetland conservation and sustainable use is one of the eight themes under the environment initiative.
United Nations Framework Convention on Climate Change - Kyoto Protocol (23 February 2005)	To further reduce greenhouse gas emissions by enhancing the national programs of developed countries aimed at this goal and by establishing percentage reduction targets for the developed countries and through the clean development mechanism (where developed countries can invest in developing country clean technology to offset emissions).
Paris Agreement adopted on 12 December 2015 at the 21 st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC CoP21)	<p>The Agreement is a comprehensive framework which will guide international efforts to limit greenhouse gas emissions and to meet all the associated challenges posed by climate change.</p> <p>The main objective of the Agreement is to limit the global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees.</p>
IFC Performance Standards	<p>The IFC's PS define IFC clients' responsibilities for managing their environmental and social risks. Eight (8) PS establish standards that the client is to meet throughout the life of an investment by IFC. These include:</p> <ul style="list-style-type: none"> ▪ Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. ▪ Performance Standard 2: Labor and Working Conditions. ▪ Performance Standard 3: Resource Efficiency and Pollution Prevention. ▪ Performance Standard 4: Community Health, Safety, and Security. ▪ Performance Standard 5: Land Acquisition and Involuntary Resettlement. ▪ Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. ▪ Performance Standard 7: Indigenous Peoples. ▪ Performance Standard 8: Cultural Heritage. <p>PS 1 establishes the importance of:</p> <p>(i) integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects;</p>

Conventions, Agreements, Frameworks	
	<p>(ii) (effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them; and</p> <p>(iii) the client's management of environmental and social performance throughout the life of the project.</p> <p>PS 2 through 8 establish objectives and requirements to avoid, minimise, and where residual impacts remain, to compensate/offset for risks and impacts to workers, Affected Communities, and the environment.</p>
IFC Stakeholder Engagement	Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets.
World Bank Group Guidelines	<ul style="list-style-type: none"> ▪ Environmental Health and Safety Guidelines (2007): <ul style="list-style-type: none"> ○ Environmental (Air Emissions and Ambient Air Quality; Energy Conservation; Wastewater & Ambient Water Quality; Water Conservation; Waste Management; Noise and Contaminated Land) ○ Occupational Health and Safety (General Facility Design & Operation; Communication & Training; Physical Hazards; Chemical Hazards; Personal Protective Equipment; Special Hazard Environmental and Monitoring) ○ Community Health & Safety (Water Quality & Availability; Structural Safety of Project Infrastructure; Life & Fire Safety; Traffic Safety; Transport of Hazardous Materials; Disease Prevention and Emergency Preparedness & Response) ○ Construction & Decommissioning (Environment; Occupational Health & Safety and Community Health & Safety) ▪ Industry Sector Guidelines: The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry-specific examples of Good International Industry Practice (GIIP), as defined in IFC's PS. Applicable to this Project: <ul style="list-style-type: none"> ○ Environmental Health and Safety General Guidelines (2007). ○ Environmental Health and Safety Guidelines for Water & Sanitation (2017). ○ Environmental Health and Safety Guidelines for Thermal Power Plants (2017).
Sustainable Development Goals (2015)	<p>The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all UN Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. South Africa has embraced sustainable development as its development approach and is fully committed to the 2030 Agenda for Sustainable Development, its principles, goals, targets and indicators.</p> <p>The 17 SDGs recognise that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.</p> <p>Through the pledge to <i>Leave No One Behind</i>, countries have committed to fast-track progress for those furthest behind first. That is why the SDGs are designed to bring the world to several life-changing 'zeros', including</p>



Conventions, Agreements, Frameworks	
	zero poverty, hunger, HIV/AIDS and discrimination against women and girls.

4 Management and Monitoring Procedures

4.1 Organisational Structure and Responsibilities

Figure 4-1 and Table 4-1 outlines the organisational structure of the Project team as well as outlines the key responsibilities of each team member.

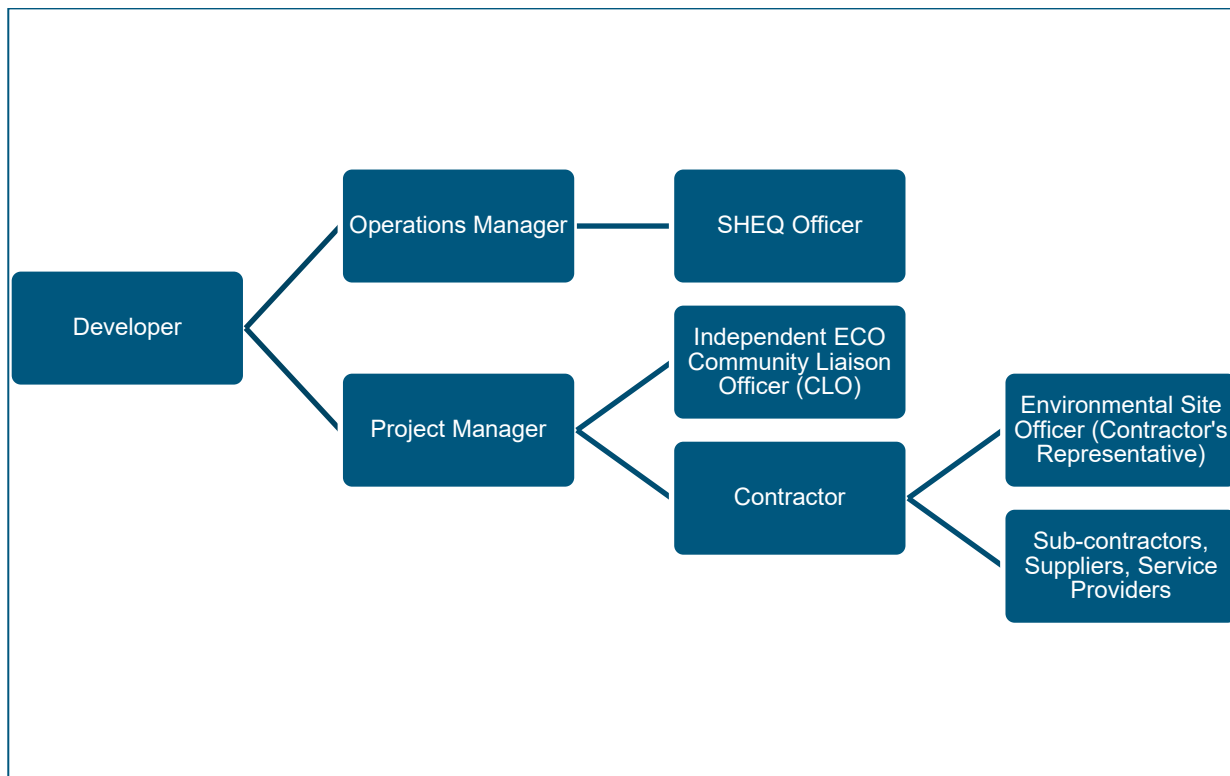


Figure 4-1: Project organisational structure

Table 4-1: Roles and responsibilities

Role	Responsibility
<p style="text-align: center;">Developer (Soufflet Malt South Africa)</p>	<p>Role: The Developer is ultimately responsible for ensuring compliance with the environmental specification and all relevant legislation and is accountable for any non-compliances with this ESMP and any other conditions of approval or non-compliances with legislation.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> ▪ Appoint a Project Manager (PM) to assume ultimate Project responsibility; ▪ Appoint an Environmental Control Officer (ECO) to monitor environmental compliance according to the Environmental Authorisation (EA), Final Approved ESMP and all other relevant licences and permits; ▪ Be fully conversant with the conditions of the EA, ESMP and all other licences and permits; ▪ Comply with all applicable legislation; ▪ Ensure the EA, Final Approved ESMP and all other relevant licences and permits are in the tender documentation issued to prospective Contractors; ▪ Request for, review and approve the Method Statements (refer to Section 4.3.3 of this document) prepared by the Contractor; ▪ Ensure the documentation (photographic evidence and reports) of the state of the site prior to construction activities commencing, in conjunction with the Contractor; ▪ Review and comment on environmental assessments and/ or reports produced by the Contractor and ECO; ▪ Assess the Contractor's environmental performance in consultation with the ECO and ECO's monthly report. This assessment of environmental performance is drawn up for record purposes and to be reported upon at meetings; ▪ Discuss with the ECO the application of penalties for the infringement of the environmental specifications, another possible enforcement measures necessary; ▪ Issue instructions as and when necessary based on the recommendation of the ECO; ▪ Arrange information meetings for or consult with the public about the impending construction activities as required; ▪ May on the recommendation of the PM and/ or ECO order the Contractor to suspend any or all works on-site if the Contractor or his sub-contractor/supplier fails to comply with the said environmental specifications for the Project; and ▪ Ensure the ESMP is implemented and audited as well as revised and updated as and when required.
<p style="text-align: center;">Project Manager (Developer's Engineering Representative on Site)</p>	<p>Role: The PM reports directly to the Developer, oversees site works and liaises with the Contractor(s) and the ECO.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> ▪ Implement the environmental specification on-site;

Role	Responsibility
	<ul style="list-style-type: none"> ▪ Be fully conversant with the conditions of the EA, ESMP and all other licences and permits and all relevant legislation; ▪ Comply with all applicable legislation; ▪ Ensure the EA, Final Approved ESMP and all other relevant licences and permits are in the tender documentation issued to prospective Contractors; ▪ Request for, review and approve the method statements prepared by the Contractor; ▪ Review and comment on environmental assessments and/or reports produced by the Contractor and ECO; ▪ Undertake regular site visits and ensure environmental specifications are implemented and managed; ▪ Monitor compliance with the requirements of the specification; ▪ Assess the Contractor's environmental performance in consultation with the ECO from which a brief monthly statement of environmental performance is drawn up for record purposes and to be reported on within Project meetings; and ▪ A Pre-construction survey of the site must be undertaken of the entire works area. This must include a complete photographic record.
<p>Contractor including Sub-Contractors, Service Providers, Suppliers and Maintenance Contractor</p>	<p>The Contractor must:</p> <ul style="list-style-type: none"> ▪ Be fully conversant and comply with the EA, Final Approved ESMP and all other relevant licences and permits including providing the Contractor's Environmental Protection Policy, as well as relevant legislation; ▪ Implement the ESMP for the duration of the contract; ▪ Manage and maintain the Site Environmental File for the duration of the contract; ▪ Appoint a suitably qualified Environmental Site Officer before construction starts, whose responsibility includes on-going monitoring and control of all construction activities concerning minimisation of environmental impact and adherence to all relevant environmental documentation for the duration of the Project; ▪ Supply Method Statements timeously for all activities requiring special attention as specified and/or requested by the Developer, ECO and/or PM during the duration of the Contract; ▪ Ensure any sub-contractors/suppliers who are utilised within the context of the contract comply with the environmental requirements of the Project, in terms of the specifications. The Contractor will be held responsible for non-compliance on their behalf; ▪ Provide trained and qualified resources - budgets, equipment, personnel and training - for the effective control and management of the environmental risks associated with the construction of the development; ▪ Bear the cost of any delays, with no extension of time granted, should his or her sub-contractors/suppliers contravene the said specifications such that the Engineer orders a suspension of work. The suspension will be enforced until such time as the offending party(ies), procedure, or equipment is corrected; ▪ Bear the costs of any damages/compensation resulting from non-adherence to the said specifications or written site instructions; ▪ Read and act on ECO reports and take cognisance of the information/recommendations contained therein; ▪ Ensure that he/she informs the PM timeously of any foreseeable activities which will require input from the ECO; ▪ Notify the ECO and PM, verbally and in writing at least ten (10) working days in advance of any activity he/she has reason to believe may have significant

Role	Responsibility
	<p>adverse environmental impacts, so that mitigatory measures may be implemented timeously or not continued with as the risk dictates;</p> <ul style="list-style-type: none"> ▪ Ensure environmental awareness among his/her employees, sub-contractors and workforce so that they are fully aware of, and understand the environmental specifications and the need for them; ▪ Maintain a documented register of environmental training for site staff and sub-contractor's staff for the duration of the contract; ▪ Communicate and liaise frequently and promptly with the ECO and the PM to ensure effective, proactive environmental management with the overall objective of preventing or reducing negative environmental impacts while enhancing positive environmental impacts; ▪ The Contractor will conduct all activities in a manner that minimises disturbance to the natural environment as well as directly affected residents and the public in general; and ▪ The Contractor assumes responsibility and accountability of all appointed sub-contractors and must ensure their compliance with this ESMP and all associated/relevant authorisations.
<p>Environmental Site Officer (ESO) (Contractor's Representative)</p>	<p>Role: The Contractor must have a dedicated ESO to ensure the day-to-day implementation of the environmental specification on-site and to report to the PM and ECO, before construction starts.</p> <p>Responsibilities: The ESO must:</p> <ul style="list-style-type: none"> ▪ Be fully conversant and assist the Contractor in complying with the EA, Final Approved ESMP and all other relevant licences and permits <u>as well as relevant legislation</u>; ▪ Be fully conversant with all relevant environmental legislation applicable to the Project, and ensure compliance with them; ▪ Comply with all applicable legislation; ▪ Compile Method Statements on behalf of the Contractor that will specify how potential environmental impacts will be managed in line with the requirements of the EA, Final Approved ESMP and other relevant licences and permits and where relevant environmental best practice, and how they will practically ensure that the objectives of the ESMP are achieved; ▪ Convey the contents of the EA, Final Approved ESMP and other relevant licences and permits to the Contractor, sub-contractors and suppliers. Ensure all relevant information is relayed to construction site-staff in a manner that is easily understandable; ▪ Undertake daily and comprehensive inspection of the site and surrounding areas in order to monitor compliance with the EA, Final Approved ESMP and other relevant licences and permits; ▪ Take appropriate action if the specifications contained in the EA, Final Approved ESMP and other relevant licences and permits are not followed. This must include

Role	Responsibility
	<p>reporting transgressions to the PM and Contractor, and may include the recommendation for penalties to be imposed on the Contractor;</p> <ul style="list-style-type: none"> ▪ Monitor and verify that environmental impacts are kept to a minimum, as far as possible; ▪ Order the removal from the construction site of any person(s) and/or equipment in contravention of the specifications of the Final Approved ESMP; ▪ Submitting a report at each site meeting which will document all incidents that have occurred during the period before the site meeting; ▪ Ensuring that the Written Warning Notification and Incidents Register is available on request; and ▪ Maintain an environmental register which keeps a record of all incidents which occur on the site during construction.
<p>Independent ECO</p>	<p>Role: The ECO must be employed by the Developer for the duration of the contract. The ECO must report to the relevant authorities as required by the conditions of approval. The ECO must monitor compliance against the environmental specification and report on such.</p> <p>Responsibilities: The ECO must:</p> <ul style="list-style-type: none"> ▪ Be fully conversant with the conditions attached to the EA, Final Approved ESMP and all other relevant licences and permits as well as relevant legislation; ▪ Be familiar with the recommendations and mitigation measures of the associated Final Approved ESMP for the Project; ▪ Monitor the implementation of the EA, Final Approved ESMP and all other relevant licences and permits during the pre-construction, maintenance and rehabilitation phases; ▪ Monitor that the Developer and Contractor are in compliance with the EA, Final Approved ESMP and all other relevant licences and permits at all times during the pre-construction, maintenance and rehabilitation phases of the Project; ▪ Monitor all site activities monthly for compliance; ▪ Conduct bi-monthly audits of the site according to the EA, Final Approved ESMP and all other relevant licences and permits, and report findings to the Project team; ▪ Attend monthly site meetings and provide feedback on compliance, updates on outstanding reviews or approvals and highlight areas of potential environmental risk based on current and upcoming construction activities; ▪ Recommend corrective action for any environmental non-compliance at the site; ▪ Compile a monthly ECO report in line with the requirements of Appendix 7 of the EIA Regulations 2014 (as amended); and ▪ Conduct once-off training (induction) with the Contractor on the requirements of the EA, ESMP, and other relevant licences and permits; and may include general environmental awareness based on best practice. <p>Required Qualifications</p> <ul style="list-style-type: none"> ▪ Environmental Management Diploma or Degree. ▪ 5 years+ experience in environmental field. ▪ Traceable and verifiable ECO experience specifically in renewable energy developments. <p><i>It must be noted that the responsibility of the ECO is to monitor compliance and give advice on the implementation of the ESMP and not to enforce compliance.</i></p>

Role	Responsibility
	<p><i>Ensuring compliance is the responsibility of the Developer, PM, Contractor and the SEO.</i></p>
<p>Operational Manager (OM)</p>	<ul style="list-style-type: none"> ▪ Be fully conversant with the conditions attached to the EA, Final Approved ESMP and all other relevant licences and permits as well as relevant legislation; ▪ Be fully conversant with all relevant environmental legislation applicable to the plant and ensure compliance with them ▪ Comply with all applicable legislation; ▪ Assist in the compilation of environmental specifications, operating instructions and company standards that will specify how potential environmental impacts will be managed in line with the requirements of the EA, Final Approved ESMP and other relevant licences and permits and where relevant environmental best practice, and how they will practically ensure that the objectives of the ESMP are achieved; ▪ Convey the contents of the EA, Final Approved ESMP and other relevant licences and permits to new contractors and service providers, if required; ▪ Conduct annual internal audits and internal reporting of the plant and surrounding areas in compliance with the ESMP and other relevant licences and permits. ▪ Take appropriate action if the specifications contained in the EA, Final Approved ESMP and other relevant licences and permits are not followed. ▪ Monitor and verify that environmental impacts are kept to a minimum, as far as possible. ▪ Order the removal from the plant, any person(s) and/ or equipment in contravention of the specifications of the ESMP ▪ Appoint an independent Environmental Auditor to annually monitor environmental compliance according to the EA, Final Approved ESMP and all other relevant licences and permits.
<p>SHEQ Officer</p>	<ul style="list-style-type: none"> ▪ Be fully conversant and assist the Operations Manager in complying with the EA, Final Approved EMPr and all other relevant licences and permits applicable to the plant. ▪ Be fully conversant with all relevant safety, health and environmental legislation applicable to the plant and ensure compliance with them. ▪ Assist in the compilation of environmental specifications, operating instructions and company standards that will specify how potential safety, health and environmental impacts will be managed in line with the requirements of the EA, Final Approved ESMP and other relevant licences and permits and where relevant environmental best practice, and how they will practically ensure that the objectives of the ESMP are achieved; ▪ Convey the contents of the EA, Final Approved ESMP and other relevant licences and permits to new Contractors and service providers, if required; ▪ Conduct annual internal audits and internal reporting of the plant and surrounding areas in compliance with the ESMP and other relevant licences and permits. ▪ Take appropriate action if the specifications contained in the EA, Final Approved ESMP and other relevant licences and permits are not followed. ▪ Monitor and verify that safety, health and environmental impacts are kept to a minimum, as far as possible. ▪ Order the removal from the plant, any person(s) and/or equipment in contravention of the specifications of the ESMP. ▪ Appoint an independent Environmental Auditor to annually monitor environmental compliance according to the EA, Final Approved ESMP and other relevant licences and permits.

4.2 Monitoring

A monitoring programme will be in place not only to ensure compliance with this ESMP through the contract/work instruction specifications, but also to monitor any environmental and social issues and impacts which have not been accounted for in the ESMP that are or could result in significant environmental impacts for which corrective action is required. The monitoring programme will entail:

- Monthly audits that will be conducted by the ECO for the duration of the construction activities including rehabilitation.
- On-going monitoring is to be undertaken by the Contractor's ESO – this will include notification to the ECO in the event an incident takes place.
- The Contractor's ESO must undertake daily site inspections to ensure all legislative requirements are adhered to.
- The ESO will monitor the Contractor's compliance and review their documentation on behalf of the Developer.

4.3 Reporting Procedure

4.3.1 Documentation

The following documentation must be kept on-site in order to record compliance with the ESMP:

- An Environmental File which includes:
 - Copy of the ESMP and all appendices;
 - Copy of the EA;
 - Copy of all other licences/permits;
 - Environmental Policy of the Main Contractor;
 - Environmental Method Statements compiled by the Contractor;
 - Written Warning Notifications;
 - Environmental Register, which must include:
 - Complaints Register - including records of complaints, minutes and attendance registers of all environmental meetings;
 - Incident Register - including copies of notification of Emergencies and Incidents to the relevant parties, this must be accompanied by a photographic record;
 - Waste Documentation such as, but not necessarily limited to:
 - Waste Manifest Documents;
 - Weighbridge Receipts (for general waste);
 - Safe Disposal Certificates (SDCs) (for hazardous waste); and
 - Waste Management Contractors Permits (to operate).
 - Material Safety Data Sheets (MSDSs) for all hazardous substances;
 - Dust Suppression Register;
 - Notification of Emergencies and Incidents in terms of Section 30 of NEMA (Act No. 107 of 1998) and Section 20 of the National Water Act (Act No. 36 of 1998).

4.3.2 Environmental Register

The Contractor must establish an Environmental Register that includes:

- ECO Audit Reports and findings.
- Complaints Register.
- Incidents Register.
- Other items discussed above in Section 4.3.1.

The Contractor must enforce that the following information is recorded for all complaints/incidents:

- Nature of complaint/incident.
- Causes of complaint/incident.
- Party(ies) responsible for causing complaint/incident.
- Immediate actions undertaken to stop/reduce/contain the causes of the complaint/incident.
- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint/incident.
- Timeframes and the parties responsible for the implementation of the corrective or remedial actions.
- Procedures to be undertaken and/or penalties to be applied if corrective or remedial actions are not implemented.
- Copies of all correspondence received regarding complaints/incidents.
- Record that all environmental reports i.e. specialist or audit reports have been reviewed and recommendations or findings addressed as appropriate.

The above records will form an integral part of the Contractors' records. These records must be kept in the Site Environmental File on-site, and must be made available for scrutiny; if so requested by the Developer, ECO or relevant authorities.

4.3.3 Method Statements

To allow the mitigation measures in this document to be implemented, task-specific Method Statements must be developed for each set of tasks. A Method Statement details how and when a process must be carried out, detailing possible dangers/risks, and the methods of control required. Method Statements can include:

- Type of construction activity;
- Timing and location of the activity;
- Construction procedures;
- Dolomite management plan;
- Materials and equipment to be used;
- Storage of hazardous substances;
- Construction traffic management;
- Transportation of the equipment to/from site;
- Dust management;
- How equipment/material must be moved while on-site;
- Location and extent of construction site office and storage areas;
- Methodology and/or specifications for impact prevention/containment;
- Methodology for environmental monitoring;
- Emergency/disaster incident and reaction procedures (required to be demonstrated); and
- Rehabilitation procedures and continued maintenance of the impacted environment.

The Contractor must be accountable for all actions taken in non-compliance of the approved Method Statements, which should be reviewed when required. The Contractor must keep all the Method Statements and subsequent revisions on file, copies of which must be distributed to all relevant personnel for implementation.

A Standard Operating Procedure must be compiled and implemented during the operational phase of the Project by the Operational Manager which must be reviewed annually.

As a minimum, the following Method Statements must be generated:

- Site establishment;
- Access control;

- Security management;
- Formalisation of any access or emergency vehicular routes i.e. traffic management plan;
- Cement mixing/concrete batching;
- Contaminated water;
- Dust management;
- Environmental awareness;
- Environmental monitoring;
- Erosion control;
- Fire, hazardous and/or poisonous substances;
- Fuels and fuel spills (must form part of the item above);
- Storage, handling and decanting of diesel (must form part of the item above);
- Personnel, public and animal safety;
- Rehabilitation of modified environment(s);
- Solid and liquid waste management;
- Sources of materials (including MSDSs which are not more than 5 years old);
- Soil management (including topsoil, subsoils and stockpiles);
- Stormwater Management; and
- Wash areas.

Method Statement topics may be grouped together in certain instances reducing the need to produce stand-alone statements covering each topic.

The Contractor may propose changes to an approach to the management of an activity (including control measures) through a management of change process that will inform the Method Statement. This Method Statement must in turn be submitted to the ECO for approval. Should new environmental impacts occur due to the change in the management of an activity this may require a new environmental approval process. At the discretion of the ECO, the Developer may be required to consult with relevant Environmental Specialists to determine if control measures dictated in said Method Statements are sufficient.

4.3.4 Environmental Emergency Response

According to NEMA (Act No. 107 of 1998) - "incident" means an unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed.

According to Section 20 of the National Water Act (Act No. 36 of 1998), "incident" includes any incident or accident in which a substance - (a) pollutes or has the potential to pollute a water resource; or (b) has, or is likely to have, a detrimental effect on a water resource.

The Contractor's environmental emergency procedures must enforce responses to unexpected/accidental actions/incidents that could cause environmental impacts. Such incidents must include, but is not limited to:

- Accidental discharges to water (i.e. into the watercourse) and land;
- Accidental spillage of hazardous substances (typically: oil, petrol, and diesel);
- Accidental damage to existing utilities e.g. sewer and water pipelines;
- Accidental toxic emissions into the air; and
- Specific environmental and ecosystem effects from accidental releases or incidents.

An *Environmental Emergency Response Procedure* is aimed at responding specifically to environmental incidents and must enforce and include the following:

- Construction employees shall be trained in terms of incidents and emergency situations;
- Details of the organisation (i.e. manpower) and responsibilities, accountability and liability of personnel;

- A list of key personnel and contact numbers;
- Details of emergency services (e.g. the fire department/ on-site fire detail, spill clean-up services) shall be listed;
- Internal and external communication procedure;
- Actions to be taken in the event of different types of emergencies;
- Incident recording, progress reporting and remediation measures to be implemented; and
- Information on hazardous materials, including the potential impact associated with each, and measures to be taken in the event of accidental release.
- Climate-related disaster management.

The Contractor and their sub-contractor(s), service providers and suppliers must comply with the environmental emergency preparedness and incident and accident-reporting requirements as per the relevant legal requirements.

The Emergency Preparedness Plan should also include any climate-related disaster occurrences such as a fire, major floods or water shortage due to prevailing drought conditions. The plan must include emergency contact details, a list of emergency equipment on site and maintenance schedule, emergency operational procedures, evacuation routes and points. Operational staff have regular toolbox talks regarding emergency procedures.

4.3.5 Written Warning Notification(s)

A Written Warning Notification must be issued to the Contractor as a final step towards rectifying a failure in complying with a requirement of the ESMP. This must be issued by the ECO to the Contractor in writing. Preceding the issuing of a Written Warning Notification, the Contractor must be given an opportunity to rectify the issue within an agreed timeframe.

The ECO must verify that the agreed actions have taken place by the agreed completion date, when completed satisfactorily; the ECO and Contractor must close out the non-compliance.

4.3.6 Public Communication and Liaison with I&APs

The Developer must ensure that the adjacent landowners are informed and updated throughout the construction phase.

A Complaints Register must be kept at the access gates for each area.

Sufficient signage must be erected around the site (including at the entrance and on the fence), informing the public of the construction activities taking place. The signboards must include the following information:

- The name of the Contractor; and
- The name and contact details of the site representative to be contacted in the event of emergencies or complaint registration.

4.4 Training and Environmental Awareness

The Developer is committed to promoting and implementing sustainability throughout their operations. As it is important to ensure that the Contractor has the level of environmental awareness and competence to enforce continued environmental due diligence and on-going minimisation of environmental harm. Training needs must be identified based on the available and existing capacity of site personnel (including the Contractors, sub-contractors, service providers and suppliers) to undertake the required ESMP management actions and monitoring activities. It is vital that all personnel are trained to perform their designated tasks to an acceptable standard.

The environmental training is aimed at:

- Promoting environmental awareness;
- Informing the Contractor of all environmental procedures, policies and programmes applicable;
- Providing generic training on the implementation of environmental management specifications;
- Providing job-specific environmental training in order to understand the key environmental features of the construction site and the surrounding environment. Job-specific training may include e.g. spill response training and snake handling.
- Incidents and non-compliances will be assessed through the Internal Incident Investigation and Reporting System, to determine the root cause, including the possible lack of awareness/training;
- Should it be evident that re-training is required, the ESO will inform the Developer/End user of the need and take the appropriate actions;
- General awareness training of all personnel shall be repeated annually; and
- The re-induction should take into consideration changes made in the ESMP, changes in legislation, current levels of environmental performance and areas of improvement.

Environmental awareness to the employees of the Project must be provided by the Contractor and/or the responsible party in the following forms:

- Toolbox Talks (monthly at a minimum) – These are mandatory. The topics discussed during training sessions must be recorded, with all employees present signing an attendance register. These records must be maintained in the Site Environmental File.
- ESMP Awareness (as and when required).

As potential environmental impacts differ in each execution/ implementation, the suggested environmental topics selected for discussion can be:

- General topics that are applicable to the entire activity;
- Area specific topics as identified in the impacts on the receiving environment or based on findings from the most recent ECO report; and
- Topics that can be “taken home” and implemented off-site.

The above-mentioned awareness activities must be used to share information and to ensure that all personnel are aware of the environment in which they operate and what environmental aspects require attention during their daily operations/activities/tasks. Additionally, personnel awareness training will be undertaken if and when required to strengthen the personnel’s understanding of environmental issues.

4.4.1 Activity Specific Topics

Some activities may have environmental impacts that are unique to each area as determined by the outcomes of the risk assessment and findings of the ECO reports. These should be addressed in the Toolbox Talks.

Area-specific topics may include:

- Stormwater management;
- Potential for water pollution and related impacts;
- Identification and management of erosion;
- Vehicle emissions and related impacts;
- Practical training regarding the clean-up of major and minor hydrocarbon spills;
- The importance of the waste management system and implementing good housekeeping;
- Dust generation and why and how to reduce dust; and
- Climate change.

4.4.2 Take-home Topics

Environmental awareness should not stop at the workplace. Many of the concepts learned at work can be applied to employees' lifestyle at home. Topics that can be covered under "take home topics" include, but are not limited to:

- Water consumption and conservation; and
- General waste minimisation and recycling - "Reduce, Reuse and Recycle".

The following action plans of the ESMP (sections: 5, 6, 7, 8 and 9) are outcome based which have been formulated using the impact ratings tables as presented in Section 5 of the ESIA Report and is presented in Appendix D of this ESMP.

5 ESMP: Pre-Construction Phase

5.1 Authorisation, Licences, Permitting and Approval Plan

Management Objective: The development must have the relevant authorisation, licences and permits in place prior to construction according to applicable legislation					
Management Outcome: All construction work must comply with the conditions of the relevant authorisations, licences and permits					
Impact Management Actions		Implementation		Monitoring	
		Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring
					Mechanism for Monitoring Compliance/Reference Document
<ol style="list-style-type: none"> 1. All required authorisations, permits and licences must be obtained by the Developer prior to the commencement of construction. 2. Consultation with the Department of Water and Sanitation (DWS) with regards to a Water Use Authorisation for activities triggering a water use as defined in Section 21 of the National Water Act. 3. A Dolomite Stability Report should be compiled prior to building plan approval. A Dolomite Risk Management Plan must be compiled by a competent person and submitted to the Council for Geoscience (CGS) for their approval. A competent person must also inspect the excavation during construction and submit a construction report to the CGS. 4. Portions of the site is classified as dolomite D4 area designation, as such a Competence Level 4 [L4 Geo-professional] will be included in the team. 5. <u>It is recommended that an annual short-term (14-day) monitoring using passive diffusive sampling techniques for NO₂, Volatile Organic Compounds (VOCs), and PM₁₀ should be undertaken at three locations on the site boundary to ensure that compliance with National Ambient Air Quality Standards (NAAQS) is maintained at the site</u> 		Developer	Obtaining authorisations, permits, licences, approvals prior to construction <u>AQMP</u>	ECO	Once-off All authorisations, licences and permits copies must be filed in the Site Environmental File. Originals should be filed at Developer's offices. <u>Compliance with the AQMP</u>



Management Objective: The development must have the relevant authorisation, licences and permits in place prior to construction according to applicable legislation					
Management Outcome: All construction work must comply with the conditions of the relevant authorisations, licences and permits					
6.	<u>boundary. This should be undertaken prior to commissioning – to establish a site baseline - and after commissioning to show the cumulative impact of the facility.</u> <u>It is recommended that a comprehensive air quality management plan (AQMP) be developed that incorporates the recommendations contained in this ESMP. The AQMP should contain detailed plans for the implementation of all the recommendations contained in this ESMP and Air Quality Impact Assessment, provide for stakeholder engagement and detailed plans for the management of complaints. The AQMP should include provisions for regular reviews of mitigation measures. It is recommended that the AQMP be submitted to the regulator for review and approval prior to the commissioning of the facility.</u>				

5.2 Contractor Appointment Plan

Management Objective: Appointment of Contractor who will undertake construction works in compliance with approved environmental authorisation, licences and permits					
Management Outcome: The appointed Contractor (including all sub-contractors and suppliers) complies with the relevant provisions of the environmental authorisation, approved ESMP and all other relevant licences and permits, as well as applicable environmental legislation and associated regulations					
Impact Management Actions		Implementation		Monitoring	
1.	The Developer must ensure that this ESMP forms part of any contractual agreements with a Contractor(s) and sub-contractors for the execution of the proposed Project.	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring
2.	The Contractor must make adequate financial provision in their budgets for the implementation of the environmental	Developer Contractor	Environmental Authorisation, ESMP, licences and permits must be included in the tender	ECO	Once-off
				Mechanism for Monitoring Compliance/Reference Document	
				Contractor Agreements and Appointment	

Management Objective: Appointment of Contractor who will undertake construction works in compliance with approved environmental authorisation, licences and permits					
Management Outcome: The appointed Contractor (including all sub-contractors and suppliers) complies with the relevant provisions of the environmental authorisation, approved ESMP and all other relevant licences and permits, as well as applicable environmental legislation and associated regulations					
<p>authorisation, approved ESMP and all other relevant licences and permits requirements.</p> <p>3. The Contractor (including all sub-contractors and suppliers) must comply with the relevant provisions of the environmental authorisation, this ESMP, applicable environmental legislation and associated regulations promulgated in terms of these laws.</p> <p>4. Tender documents must include statements which include the use of local communities or local community organisation(s) in supplying services and labour for the construction activities.</p>		documents and the Contractor needs to price appropriately			

5.3 Environmental Awareness Training Plan

Management Objective: Environmental impacts during construction are minimised due to general awareness of environmental requirements					
Management Outcome: Environmental impacts are minimised through effective awareness and training for all construction staff including sub-contractors, service providers and suppliers					
Impact Management Actions		Implementation		Monitoring	
		Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring
<p>1. The ECO must ensure that the initial environmental induction with the Project management team prior to the commencement of construction is performed.</p> <p>2. The Contractor's Environmental Induction presentation must be provided to the ECO for review (comment and approval) prior to the commencement of construction.</p> <p>3. All Contractors, sub-contractors, service providers and suppliers must acknowledge their understanding of the ESMP and environmental responsibilities by signing an induction attendance record.</p>		ESO	On-site environmental induction	ECO	Once-off or to cover new employees as required
					Mechanism for Monitoring Compliance/Reference Document
					Record of attendance to the induction must be filed in the Site Environmental File

Management Objective: Environmental impacts during construction are minimised due to general awareness of environmental requirements					
Management Outcome: Environmental impacts are minimised through effective awareness and training for all construction staff including sub-contractors, service providers and suppliers					
<ol style="list-style-type: none"> 1. All construction staff including sub-contractors, service providers and suppliers working on-site must receive environmental awareness training. 2. Training must be done and records of the training (attendance registers and content notes) must be kept within the Site Environmental File. 3. Information posters must be erected and maintained at key location site. 4. The Contractor's environmental awareness training must be site specific and address all findings raised by the ECO. 	Contractor	Monthly (minimum) toolbox talks and awareness training	ECO	Monthly	Record of attendance to the toolbox talks must be filed in the Site Environmental File

5.4 Stakeholder Engagement Plan

Management Objective: Proper execution of stakeholder engagement and information disclosure					
Management Outcome: Clear and transparent communication between Developer/Contractor and affected stakeholders					
Impact Management Actions	Implementation		Monitoring		
<ol style="list-style-type: none"> 1. A Community Liaison Officer (CLO) must be appointed before the construction phase commences. 2. The Stakeholder Engagement Plan (SEP) – Appendix C must be implemented from the beginning of the Project and must be utilised during all phases of the Project lifecycle (planning, pre-construction, construction and operations). 3. Implementation of a grievance mechanism which outlines the following: <ol style="list-style-type: none"> a. A notice board to be erected at the Project site indicating contact details in which the stakeholders can get in contact with the responsible party and the mechanism in which grievances can be lodged. 	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance/Reference Document
	Developer Contractor ESO	SEP	ECO	Monthly (Maintained throughout the lifecycle of the Malt Plant)	SEP Grievance Register



Management Objective: Proper execution of stakeholder engagement and information disclosure					
Management Outcome: Clear and transparent communication between Developer/Contractor and affected stakeholders					
<ul style="list-style-type: none"> b. Maintenance of a Grievance Register which as a minimum includes logging contact information of person lodging the complaint, date and time, nature of grievance and close out/outcome of grievance. c. Grievances will be acknowledged in writing, within seven (7) days of receiving the grievance, through appropriate communication medium. d. Responses (either oral or written) will be forwarded within 30 days of receiving the grievance. <p>4. Training and skills development programmes should be offered to employees of the development prior to the commencement of the construction phase.</p> <p>5. Engage proactively with local stakeholders and implement transparent hiring practices to ensure equitable distribution of employment opportunities.</p>					

5.5 Site Preparation Plan

Management Objective: Impacts on fauna and vegetation in and adjacent to the construction area are avoided					
Management Outcome: Construction activities are restricted to the demarcated construction area					
Impact Management Actions	Implementation		Monitoring		
<ul style="list-style-type: none"> 1. A pre-construction photographic record of the entire construction area must be undertaken prior to commencement. 2. Under no circumstances must any natural area on neighbouring properties (outside the approved development footprint) be impacted, degraded, cleared, or affected in any manner. 3. The demarcation and fencing must be signed off by the ECO before any work commences. 	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
	Contractor ESO	Demarcation of construction servitude prior to site clearing	ECO	Once-off	Pre-construction photographic records



Management Objective: Impacts on fauna and vegetation in and adjacent to the construction area are avoided					
Management Outcome: Construction activities are restricted to the demarcated construction area					
4. Prior to site clearance, conduct targeted searches for animal species with high probability of occurring within the Project footprint.					Clearly marked construction servitude
5. The Project footprint sites should be "screened" prior to, and during the construction phase for reptiles, should it be required a qualified herpetologist/zoologist must be contacted. This person should also be capable of handling venomous snakes. All species found should be relocated to suitable habitat not more than 50km from the Project site.					
6. Erosion control must be prioritized, notably during the planning phase where slopes, runoff from paved and tarmac areas and stormwater control measures need to be highlighted and planned to prevent erosion of surrounding natural areas.					

6 ESMP: Construction Phase

6.1 Site Establishment Plan

Management Objective: Incorporation of environmental issues and constraints in the planning and establishment of the site					
Management Outcome: Impacts relating to site establishment are minimised					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> Hazardous materials storage areas (including fuels), equipment cleaning areas, cooking and ablution facilities, workshops, parking must be restricted to the construction laydown area. The location of any additional temporary laydown, stockpile, waste or spoil areas must be approved by the ECO prior to implementation. Signage must be placed in the area where construction will take place informing the public of the activities taking place. The construction areas must be kept in an orderly state at all times. 	Contractor and ESO	Layout Plan	ECO	Once-off	Approved Layout Plan
<p>Demarcated Areas:</p> <ol style="list-style-type: none"> The extent of disturbance must be limited to the extent of the Project footprint. No areas outside the Project footprint must be cleared unless authorised. Any Contractors found working outside demarcated must be issued with a final warning as per agreements for the Project. Unauthorised stockpiling, dumping or storage of equipment, material or waste must be strictly prohibited outside demarcated areas. Areas outside of the construction footprint that are disturbed during the construction phase must be rehabilitated immediately to the satisfaction of the ECO. Existing roads or authorised access roads must be used to gain access to site. 	Contractor and ESO	Demarcation of sensitive areas and staying within approved areas for construction	ECO	Daily Monthly	Site inspection

Management Objective: Incorporation of environmental issues and constraints in the planning and establishment of the site					
Management Outcome: Impacts relating to site establishment are minimised					
<p>Vehicle and Equipment Maintenance:</p> <ol style="list-style-type: none"> 1. Heavy machinery and construction vehicles must be parked in the designated area at the construction laydown area. 2. A dedicated maintenance area must be demarcated with an impermeable surface leading to an oil-water separator. 3. No vehicle must be repaired in any place other than in the dedicated maintenance yard – if such repairs are required the vehicle must be made safe (i.e. no leakage while being removed to the repair facility) and removed at the earliest opportunity to the repair facility. 4. Washing of vehicles on-site or at the construction laydown area is prohibited. The only exception is if a designated bund facility with an oil-water separator is constructed at the laydown area. 5. The positioning of such a facility must be approved prior to construction by the ECO in consultation with the PM. 	<p>Contractor</p> <p>ESO</p>	<p>Dedicated maintenance area/yard</p>	<p>ECO</p>	<p>Monthly</p>	<p>Site inspection</p>
<p>Ablutions/Sanitation:</p> <ol style="list-style-type: none"> 1. A minimum ratio of one chemical toilet (gender-specific) must be provided per 15 persons. Chemical toilets must be serviced a minimum of once every week. A SDC and/ or waste manifest must be obtained and kept on-site. 2. All ablation activities must take place in these facilities, and the waste material must be removed from site on a regular (weekly) basis by a permitted Waste Contractor for safe disposal at a licenced waste disposal facility or a municipal wastewater treatment works. 3. All temporary/portable toilets must be secured to the ground to prevent them from toppling due to wind or any other cause. 4. Unauthorised dumping/spilling of waste from toilets into the environment and/or burying of waste are strictly prohibited. 	<p>Contractor</p>	<p>Provision of ablation facilities during construction</p>	<p>ESO</p> <p>ECO</p>	<p>Daily</p> <p>Monthly</p>	<p>Proof of servicing and safe disposal</p>

6.2 Soil Management Plan

Management Objective: Additional construction-related activities impact on soils are prevented					
Management Outcome: Impact on soils are minimised or avoided through implementation of mitigation measures					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance/Reference Document
<ol style="list-style-type: none"> 1. A <i>Soil Management Method Statement</i> must be compiled by the Contractor and approved by the ECO. 2. Erosion/sediment control measures such as use of silt curtains, erosion berms, sandbags etc. must be placed around the stockpiles to limit sediment runoff from stockpiles. 3. Subsoil and topsoil must be stockpiled separately. Stockpiled soil must be replaced in the reverse order to which it was removed (subsoil first followed by topsoil). 4. Stockpiles of construction materials must be clearly separated from soil stockpiles in order to limit any contamination of soils. 5. The maximum depth of topsoil stripping should be 30cm or as agreed with the ECO. 6. If additional unconsolidated material exists below 30cm and needs to be removed for construction purposes, it must be stripped and stockpiled separately from the upper 30cm topsoil. 7. The stockpiles must only be placed within demarcated stockpile areas. 8. Stockpiled soils must not be compacted. 9. Limiting the stockpile height to 3m and the slope to 1 in 5 and rounding the top edges. 10. Cover excavated soils with a temporary liner to prevent contamination. 11. Exposed soils are to be protected using a suitable covering or revegetating. 12. Excavated materials must not be contaminated, and it must be ensured that the minimum surface area is taken up. The mixture of the lower and upper layers of the excavated soil must be kept to 	Contractor and ESO	Method Statement to be compiled for soil stockpile management	ESO ECO	Daily Monthly	Site inspection and compliance with Method Statement



Management Objective: Additional construction-related activities impact on soils are prevented					
Management Outcome: Impact on soils are minimised or avoided through implementation of mitigation measures					
<p>a minimum, so as for later use as backfill material after construction has commenced.</p> <p>13. Backfill the material in the same order it was excavated to reduce contamination of deeper soils with shallow oxidised soils.</p> <p>14. Soil must be lightly recompact to a depth of 450mm, and all construction material must be removed from the site upon the completion of construction or used in the rehabilitation process.</p>					
<p>1. A Soil Erosion and Sedimentation Control Method Statement must be compiled by the Contractor and approved by the ECO prior to construction.</p> <p>2. Vegetation/soil clearing, and stripping activities must only be undertaken during agreed working times and permitted weather conditions.</p> <p>3. Construction activities must be scheduled to minimise the duration of exposure to bare soils on-site.</p> <p>4. All erosion control measures must be maintained and monitored monthly and sediment accumulating behind the structures must be removed and redistributed to ensure that structures do not fail.</p> <p>5. Conduct inspections after each rainfall event to identify areas of erosion. Inspections must be documented.</p> <p>6. Implement an effective system of stormwater runoff control at all points of disturbance where water accumulation might occur. The system must effectively collect and safely disseminate any runoff water from all hardened surfaces, and it must prevent any potential down slope erosion. Any occurrences of erosion must be attended as per agreement with the ECO and the integrity of the erosion control system at that point must be amended to prevent further erosion from occurring.</p>	Contractor and ESO	Method Statement to be compiled for erosion control and sedimentation	ESO ECO	Daily Monthly	Site inspection and compliance with Method Statement



Management Objective: Additional construction-related activities impact on soils are prevented					
Management Outcome: Impact on soils are minimised or avoided through implementation of mitigation measures					
7. Maintain where possible all vegetation cover and facilitate re-vegetation of denuded areas throughout the site, to stabilize disturbed soil against erosion.					

6.3 Vegetation Clearing Plan

Management Objective: Construction-related activities are undertaken in a manner which prevents additional impacts to vegetation					
Management Outcome: Vegetation clearance and associated impacts are minimised through adherence of ESMP vegetation clearance requirements					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> Areas proposed for vegetation clearance must be clearly marked and no heavy vehicles should travel beyond the marked area. Cleared vegetation and debris that has not been utilised must be collected and can be mulched and composted. Under no circumstances may it be burned on-site. Collection of shrubs or any vegetation for fire making purposes is strictly prohibited. Where clearing of vegetation at a large scale is to be undertaken, no large-scale indiscriminate clearing of vegetation from the entire footprint must be undertaken. Rather blocks of vegetation must be systematically cleared of vegetation to avoid the creation of large volumes of dust and to control stormwater runoff during construction. 	Contractor & ESO	Working within demarcated areas	ESO ECO	Weekly (ESO) Monthly (ECO)	Site inspections

6.4 Fauna Management Plan

Management Objective: Construction-related activities are undertaken in a manner which prevents additional impacts to fauna and wildlife					
Management Outcome: Impacts on fauna are minimised through adherence of ESMP requirements					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance/Reference Document
1. The intentional killing of any faunal species (in particular invertebrates, reptiles and snakes) must be avoided by means of awareness programmes presented to the labour force. The workforce must					

Management Objective: Construction-related activities are undertaken in a manner which prevents additional impacts to fauna and wildlife					
Management Outcome: Impacts on fauna are minimised through adherence of ESMP requirements					
<p>be made aware of conservation issues pertaining to the taxa occurring on the study site.</p> <p>2. Establish operational procedures for eventualities in dealing with snakebites.</p> <p>3. No wild animal may under any circumstance be hunted, snared, captured, injured, killed, harmed in any way or removed from the site. This includes animals perceived to be vermin (such as snakes, rats, mice, etc.).</p> <p>4. Due to the type of development, the type and nature of demarcation should not attempt to facilitate free movement of smaller animals as this could lead to unwanted presence (and accidental killing) of animals within the development site.</p> <p>5. Any fauna that are found within the construction zone must be moved to the closest point of natural or semi-natural habitat outside the construction corridor.</p> <p>6. All vehicles accessing the site should adhere to a low-speed limit (40km/hr is recommended) to avoid collisions with susceptible species such as reptiles (snakes and lizards).</p>	Contractor	Awareness Training Injuring, capturing, killing of animals identified on-site must be reported and investigated	ESO ECO	Weekly Monthly	Training material relating to wildlife management

6.5 Ground- and Surface Water Resources Protection Plan

Management Objective: Construction-related activities is undertaken in a manner which prevent additional impacts to ground- and surface water resources					
Management Outcome: Impacts on ground- and surface water resources are minimised					
Impact Management Actions		Implementation		Monitoring	
		Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring
1. Mitigation for spillage or leakages include bunded areas to store chemical and/or fuel.					
2. Spillages must be cleaned up immediately and contaminated soil must either be remediated in situ or disposed of at an appropriately licenced landfill site.					
3. Potentially contaminating wastes (empty containers for paint, solvents, chemicals, etc.) and cement must be stored in bunded		Contractor	Prevention of any spillage into ground- and	ESO ECO	Daily Monthly
					Site inspection



Management Objective: Construction-related activities is undertaken in a manner which prevent additional impacts to ground- and surface water resources					
Management Outcome: Impacts on ground- and surface water resources are minimised					
areas until removed by a reputable contractor for disposal at an appropriately licenced facility.		surface water resources			
4. Park heavy machinery in lined areas and place drip trays under vehicles at the site.					
5. Vehicles must be service in the dedicated workshop area.					
6. Limit water use to sustainable levels.					

6.6 Spills, Incident and Pollution Control Plan

Management Objective: To avoid, manage and mitigate potential impact on the environment due to spillages					
Management Outcome: Impacts to the environment soils, surface and groundwater is avoided (where possible) or managed					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> A Spill Contingency Plan must be compiled by the Contractor. In the event that a pollution incident occurs on-site, the Contractor must: <ul style="list-style-type: none"> Implement reasonable measures immediately to contain and minimise the impacts of the incident; Refer to the MSDS if applicable to determine clean up requirements; Investigate and determine the root cause. The causes must be addressed in an Action Plan; Notify all persons whose health is affected by the incident; Undertake clean up procedures immediately as appropriate; Notify the ESO and ECO of the incident immediately who will advise the employee as to the measures that must be implemented; Record the incident in the <i>Environmental Incident Register</i>; and Implement measures to prevent similar incidents from occurring in the future. In the event of a significant spillage that cannot be contained and which poses a serious threat to the 	ESO & Contractor	<ul style="list-style-type: none"> Construction staff to be trained in spill management Spill Contingency Plan Updated Environmental Incident Register 	<ul style="list-style-type: none"> ESO ECO 	<ul style="list-style-type: none"> Daily Monthly 	<ul style="list-style-type: none"> Site inspection Inspection of Environmental Incident Register Compliance with Spill Contingency Plan Provision of spill kits



Management Objective: To avoid, manage and mitigate potential impact on the environment due to spillages					
Management Outcome: Impacts to the environment soils, surface and groundwater is avoided (where possible) or managed					
<p>environment, the following Departments must be informed within forty-eight (48) hours of the incident and in accordance with Section 30 of the NEMA:</p> <ul style="list-style-type: none"> ▪ The relevant Municipality; ▪ Department of Forestry, Fisheries and the Environment; ▪ Department of Water and Sanitation; and ▪ The Local Fire Department. <p>4. Spillages of fuels, oils and other potentially harmful chemicals must be cleaned up immediately and contaminants properly disposed of using appropriate spill kits. Any contaminated soil from the construction site must be removed and rehabilitated or disposed appropriately at the nearest landfill site. The ECO must be notified immediately when a spill occurs.</p>					

6.7 Hazardous Substances Management Plan

Management Objective: To minimise the risk of impact to the environment through the safe storage, handling, use and disposal of hazardous substances					
Management Outcome: The management of hazardous substances is undertaken in accordance with the Hazardous Substances Act (Act No. 15 of 1973)					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> 1. Hazardous storage and must be bunded prior to their use on-site during the construction period following the appropriate SANS codes. 2. MSDSs for all hazardous substances must be filed in the Site Environmental File and not be more than 5 years old. 3. Fire-fighting equipment must be present at all hazardous storage facilities. 4. Fuel storage containers must be regularly inspected to prevent leaks. 5. Drums (220ℓ) or another appropriate storage container must be kept on-site to collect contaminated. These containers must be labelled and sealed to prevent the ingress of water. Contaminated soil must be disposed of at a licenced hazardous waste site. 	Contractor	Bunding of hazardous storage sites	ESO ECO	Daily Monthly	Site inspection of hazardous storage areas and inspection of drip trays and impervious surfaces



Management Objective: To minimise the risk of impact to the environment through the safe storage, handling, use and disposal of hazardous substances					
Management Outcome: The management of hazardous substances is undertaken in accordance with the Hazardous Substances Act (Act No. 15 of 1973)					
6.	If a water pump is required, the water pump must operate within to prevent any spillage and limit the risk of soil/ water contamination.				

6.8 Water Supply Plan

Management Objective: Undertake responsible water usage during construction						
Management Outcome: Water for construction is compliant with the requirements of the National Water Act (Act No. 36 of 1998)						
Impact Management Actions		Implementation		Monitoring		
		Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1.	Only approved/licenced sources of water must be used for construction activities.					
2.	Do not abstract more than what is approved in the water use licence for the borehole abstraction, or as determined by the borehole sustainable yield testing.					
3.	Water for human consumption must be available at the site offices and at other convenient locations on-site where work occurs.	Contractor	Approved/ licenced_sources of water	ECO	Monthly	Site inspection

6.9 Stormwater Management Plan

Management Objective: Stormwater is managed across the construction area						
Management Outcome: Avoid, prevent and manage impacts related to stormwater						
Impact Management Actions		Implementation		Monitoring		
		Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1.	An updated Stormwater Management Plan (SWMP) must address stormwater management during construction and the final developed infrastructure and approved by the ECO. Stormwater interventions as described in Section 6 - Conceptual Stormwater Management Plan of the Hydrology Report ² must be incorporated where practical.	Developer				
		Contractor	SWMP	ECO	Monthly	Approval of SWMP

² GCS, 2024, Hydrology Assessment for the Proposed Soufflet Malting Facility, GCS Ref - 24-0032, Dated:01 July 2024

Management Objective: Stormwater is managed across the construction area					
Management Outcome: Avoid, prevent and manage impacts related to stormwater					
2. Ensure that all stormwater systems are kept clean of any debris and silt to reduce flooding risk.					
3. Ensure that eroded areas are re-vegetated, to ensure reduced sedimentation risk and reduced runoff volumes to the streams.					
4. Have fuel/oil spill kits on-site, for immediate clean-up of any hydrocarbons during the proposed activities. Park vehicles in dedicated areas, with drip trays to manage potential leakages.					
5. Conduct regular inspections and maintenance of the site to ensure that vegetation cover is adequate, and no rivulets are generated.					

6.10 Batching Plants Management Plan

Management Objective: To avoid, manage and mitigate potential impact on the environment due to spillages and contamination					
Management Outcome: Minimise spillages and contamination of soil, surface water and groundwater					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1. A Method Statement must be compiled for Batching Plants (if required).	Contractor	Method Statement for Batching Plants	ESO ECO	Monthly	Approved Method Statement for Batching Plants Site inspection
2. No mixed concrete may be deposited outside of the designated construction footprint.					
3. Batching plant areas (if any) must be fitted with a containment facility for the collection of cement-laden water.					
4. Mixing of concrete (if not provided via ready mix trucks) must take place on trays, shutter boards or on impermeable surfaces.					
5. Runoff from cement/concrete batching areas must be directed to an excavation lined with DPM plastic and allowed to dry out before being broken up and re-used elsewhere or safely disposed of at a licenced disposal facility.					



Management Objective: To avoid, manage and mitigate potential impact on the environment due to spillages and contamination					
Management Outcome: Minimise spillages and contamination of soil, surface water and groundwater					
6. Concrete spilt outside of the demarcated area must be promptly removed and taken to a suitably licensed waste disposal site.					
7. No tracking of wet concrete is allowed.					
8. Wet concrete must be cleared from site daily.					
9. Only dry concrete may be stockpiled directly on the ground.					
10. Empty cement bags (if ready mix is not provided on-site) must be secured with adequate binding material if these will be temporarily stored on-site.					
11. Cement bags must be disposed of in the demarcated hazardous waste receptacles and the used bags must be disposed of through the hazardous substance waste stream.					
12. Spilled or excess concrete must be disposed of at a suitable landfill site. Chain of custody documentation must be provided.					

6.11 Noise Management Plan

Management Objective: To avoid, manage and mitigate potential noise impacts during construction					
Management Outcome: Impacts to the noise sensitive receptors is avoided (where possible) or managed					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1. Surrounding communities and adjacent landowners are to be notified upfront (within 48 hours) of noisy construction activities (blasting, excavations and piling activities).	Contractor	Compliance with SANS 10103 and OHS Act Use of appropriate PPE	ESO ECO	Monthly	Site inspection
2. All employees and Contractors should receive Health and Safety induction that includes an environmental awareness component (noise). This is to allow employees and Contractors to the potential noise risks that activities (especially night-time activities) pose to the realise surrounding environment.					
3. Plant equipment such as generators, compressors, concrete mixers, and vehicles should be kept in good					

Management Objective: To avoid, manage and mitigate potential noise impacts during construction					
Management Outcome: Impacts to the noise sensitive receptors is avoided (where possible) or managed					
<p>working order and, where possible, equipped with effective exhaust mufflers.</p> <p>4. With regard to unavoidable noisy construction activities in the vicinity of noise sensitive areas, the Developer should liaise with adjacent landowners/occupants on how best to minimise the impact.</p> <p>5. Machines in intermittent use must be shut down or throttled down to a minimum whenever practicable.</p> <p>6. Noise levels must be kept within prescribed limits:</p> <ol style="list-style-type: none"> The recommended day-time zone sound level is 50dBA. The upper noise limit at NSR would be 55dBA (as per IFC"s recommended noise limit for residential use). The recommended night-time zone sound level was 40dBA, with a night-time noise limit of 45dBA. <p>7. All operations must meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).</p>					

6.12 Dust and Emissions Plan

Management Objective: To reduce air quality (dust and emissions) during construction activities					
Management Outcome: Minimal dust, emissions and odour due to adherence of management actions					
Impact Management Actions	Implementation			Monitoring	
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<p>1. Dust must be suppressed on the construction site as well as access roads and active working areas during dry periods by the regular application of water.</p> <p>2. Water used for dust suppression must be used in quantities that will not result in the generation of runoff.</p> <p>3. A <i>Dust Suppression Register</i> must be kept on-site.</p> <p>4. The Contractor should monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain records of all fugitive dust</p>	Contractor and ESO	Regular dust suppression Maintaining a Dust Suppression Register	ECO	Monthly	<p>Site inspection</p> <p>Dust Suppression Register</p>

Management Objective: To reduce air quality (dust and emissions) during construction activities					
Management Outcome: Minimal dust, emissions and odour due to adherence of management actions					
complaints received and the corrective action taken in response to the complaint.					Complaints Register

6.13 Waste Management Plan

Management Objective: To avoid, manage and mitigate potential waste impacts during the construction phase					
Management Outcome: Potential impacts to the environment caused by waste (general and hazardous) are avoided or managed					
Impact Management Actions					
Solid Waste <ol style="list-style-type: none"> 1. Adequate rubbish bins and waste disposal facilities (general and hazardous waste) must be provided on-site. 2. The construction site must be kept clean and tidy and free from rubbish. 3. No solid waste must be burned on-site. 4. Bins and/or skips must be supplied at convenient intervals on-site for disposal of waste within the construction laydown area. 5. Bins must be provided to all areas that generate waste e.g. worker eating and resting areas and the construction laydown area. General refuse and construction material refuse as well as hazardous waste must not be mixed. 6. Hazardous waste bins must be clearly marked, stored in a contained area (or have a drip tray) and covered (either stored under a roof or the top of the container must be covered with a lid). 7. Hazardous waste must be disposed of at a licenced hazardous waste landfill site. 8. Waste bins must be cleaned out weekly or when capacity has been reached to prevent any windblown waste and/ or visual disturbance. 9. Skips must be covered by tarpaulin or sail and bins must have lids. 10. Once loaded onto a truck, the rubble (inert waste i.e. concrete, sand, rock etc.) must be taken to a recognised local municipal landfill site as approved by the ECO. Waybills or a signed waste manifest (with all relevant signatures) or as a last resort photographic record of the waste disposal at the local municipal landfill site must be provided as proof of safe disposal. The truck must be covered with tarpaulin or a sail. 	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
	General camp house-keeping Provision of bins Waste documents Awareness training on waste minimisation and re-use	Contractor ESO ECO	Daily Monthly	Provision of waste disposal facilities (bins & skips) Proof of waste documents (SDCs, weighbridge receipts, recycling certificates)	



Management Objective: To avoid, manage and mitigate potential waste impacts during the construction phase					
Management Outcome: Potential impacts to the environment caused by waste (general and hazardous) are avoided or managed					
11. Should rubble be required as a raw material for the construction, it must be taken to a designated stockpile area - which must be approved by the ECO.					
12. A full paper trail for waste disposal must be kept that includes: permits to operate (handle, transport waste); Waste Management Licences (for both storage and waste disposal facilities - where applicable) for Waste Handling Contractor/ s; Waste Registrations (for storage of waste, and recycling facilities - where applicable) for Waste Handling Contractor/s; Waste Manifests; Weighbridge Certificates; Safe Disposal Certificates and Certificates of Recycling.					
13. The provisions of the NEM: Waste Act and Norms and Standards for the Storage of Hazardous Waste and Recycling or Recovery of Waste must be complied with.					
14. The burning of general waste material is not allowed.					
15. A periodic (at least annual) clean-up of the surrounding natural environment should be undertaken to remove litter and prevent unwanted deterioration of the surrounding natural environment.					

6.14 Traffic Management Plan

Management Objective: Reasonable measures are taken to ensure the safety of public, pedestrians and construction workers at all times during construction					
Management Outcome: All precautions are taken where possible to minimise the risk of injury, harm, death or complaints. Compliance with the Occupational Health and Safety Act (Act No. 85 of 1993) and Regulations					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1. Adequate road warning signs and road markings must be introduced.	Contractor	Traffic Management Method Statement and Traffic Management Plan	ESO	Monthly	Approval of Traffic Management Method Statement and Traffic
2. The road signage must be carried out in accordance with the latest edition of the South African Road Traffic Signs Manual and comply with the latest editions of the Southern African Development Community Road Traffic Signs Manual.			ECO	Daily	
3. Clear and early warning of construction vehicles must be provided.					
4. Throughout the period of construction, the Province, District and Local Municipalities to be made aware of the name and contact details of the PM that they can communicate with should any					



Management Objective: Reasonable measures are taken to ensure the safety of public, pedestrians and construction workers at all times during construction					
Management Outcome: All precautions are taken where possible to minimise the risk of injury, harm, death or complaints. Compliance with the Occupational Health and Safety Act (Act No. 85 of 1993) and Regulations					
<p>matters arise in connection with any aspects of the construction that are affecting the road.</p> <p>5. The condition of the R550 East/West, R550 North/South and access road to be monitored by the relevant parties and remedial actions to be implemented to maintain an acceptable road conditions.</p> <p>6. The movement of materials and equipment by trucks must be phased through the day to the reduce the impact the trucks have on traffic congestion. The delivery of materials/ equipment by abnormal vehicles, if required, must be scheduled during off-peak periods in order to have the least impact on traffic conditions.</p> <p>7. Heavy vehicle movement during the construction phase should be timed (where possible) to avoid times of the week, such as weekends, when the volume of traffic on the access roads may be higher.</p> <p>8. The road safety conditions to be monitored by Traffic Police on the R550 East/West and R550 North/South intersection, this will increase the road safety and minimize the risk of accidents along this section of the road.</p>					Management Plan

6.15 Fire Management Plan

Management Objective: Minimise the risk of fire during construction					
Management Outcome: Fire prevention measures are carried out in accordance with the National Veld and Forest Fire Act (Act No. 101 of 1998)					
Impact Management Actions		Implementation		Monitoring	
		Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring
1. Prevent all open fires on-site.					
2. The irresponsible use of welding equipment, oxy-acetylene torches, and other naked flames, which could result in veld fires, or constitute a hazard should be guided by safe practice guidelines.					
3. Provide demarcated fire-safe zones, facilities, and suitable fire control measures.					
4. Emergency procedures should be developed and implemented on-site during construction.					
5. The workers must be educated on the dangers of open/unattended fires.					
		Contractor	Awareness training	ESO ECO	Daily Monthly Site inspection

Management Objective: Minimise the risk of fire during construction					
Management Outcome: Fire prevention measures are carried out in accordance with the National Veld and Forest Fire Act (Act No. 101 of 1998)					
6. Fire-fighting measures such as fire extinguishers must be located on-site.					
7. The workforce must be trained in fire prevention and fire-fighting measures.					
8. The burning of general waste material is prohibited.					
9. Provide demarcated fire-safe zones, facilities and suitable fire control measures.					
10. Contact numbers for the local Fire Fighting Unit must be communicated in the environmental awareness training and displayed at the laydown area.					

6.16 Heritage and Palaeontological Resources Management Plan

Management Objective: Prevent damage and destruction to fossils, archaeological site and material of heritage significance					
Management Outcome: Impact to heritage and palaeontological resources are managed in terms of the National Heritage Act					
Impact Management Actions					
1. Implement a chance to find procedure in case where possible heritage finds are uncovered. a. A heritage practitioner/archaeologist should be appointed to develop a heritage induction program and conduct training for the ECO as well as team leaders in the identification of heritage resources and artefacts during the implementation of the EMPr. b. <u>If heritage resources are uncovered during the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.</u> c. Should an archaeological site or cultural material be discovered during construction (or operation),	Implementation		Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
	Responsible Person/s	Method of Implementation			
	Heritage Practitioner/Archaeologist Palaeontologist Contractor ESO	Construction works to be halted until the relevant provincial heritage agency is contacted Implement Chance Find Procedure for Heritage and Palaeontological Finda	ECO	Once-off	Construction works to be halted until the relevant provincial heritage agency is contacted



Management Objective: Prevent damage and destruction to fossils, archaeological site and material of heritage significance					
Management Outcome: Impact to heritage and palaeontological resources are managed in terms of the National Heritage Act					
<p>the area should be demarcated, and construction activities halted.</p> <p>d. The qualified heritage practitioner/archaeologist will then need to come out to the site and evaluate the extent and importance of the heritage resources and make the necessary recommendations for mitigating the find and the impact on the heritage resource.</p> <p>e. The Contractor therefore should have some sort of contingency plan so that operations could move elsewhere temporarily while the materials and data are recovered.</p> <p>2. Implement a chance find procedure for palaeontological finds:</p> <p>a. <u>If a chance find is made, the person responsible for the find must immediately stop working, and all work in the immediate vicinity of the find must stop as well.</u></p> <p>b. The individual who discovered the item must immediately notify his or her direct supervisor, who must then notify his or her management and the ESO. The ESO must notify the relevant Heritage Agency (South African Heritage Resources Agency, SAHRA) of the discovery (Contact information: <u>SAHRA DAU (Stephen van den Heever svandenheever@sahra.org.za, Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za)</u>. Web address: <u>www.sahra.org.za</u>). Photographs of the find from various perspectives, as well as GPS coordinates, must be submitted to the Heritage Agency.</p> <p>c. <u>Within 24 hours of the discovery, a preliminary report must be sent to the Heritage Agency, which must include the following: 1) the date of finding; 2) a description of the discovery; and 3) a description of the fossil and its context (depth and position of the fossil), as well as GPS coordinates.</u></p>					



Management Objective: Prevent damage and destruction to fossils, archaeological site and material of heritage significance					
Management Outcome: Impact to heritage and palaeontological resources are managed in terms of the National Heritage Act					
<ul style="list-style-type: none"> d. Photographs of the discovery (the more the merrier) must be of high quality, in focus, and accompanied by a scale. Photographs of the vertical part (side) where the fossil was discovered are also required. e. Upon receipt of the preliminary report, the Heritage Agency will notify the ESO whether a palaeontologist rescue excavation or collection is required. f. The place must be guarded to prevent future damage. There should be no attempt to remove material from their environment. Stabilize the exposed items and cover them with a plastic sheet or sandbags. The Heritage organization will also be able to advise on the best way to protect the find. g. If the fossil cannot be stabilized, the ESO may carefully collect the fossil. h. Once the Heritage Agency has received the written authorization, the developer may continue with the development on the affected area. i. Fossil finds must be placed in tissue paper and in an appropriate box while necessary care must be taken to remove any fossil material from the rescue site. <p>3. <u>If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA DAU (Stephen van den Heever svandenheever@sahra.org.za, Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted as per section 35(3) of the NHRA. Noncompliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.</u></p> <p>4. <u>If unmarked human burials are uncovered, the SAHRA DAU (Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted immediately as per section 36(6) of the NHRA.</u></p>					



Management Objective: Prevent damage and destruction to fossils, archaeological site and material of heritage significance					
Management Outcome: Impact to heritage and palaeontological resources are managed in terms of the National Heritage Act					
<u>Noncompliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule.</u>					

6.17 Social and Labour Management Plan

Management Objective: Negative social impacts are avoided or minimised and benefits are maximised					
Management Outcome: Social benefits and impacts associated with construction activities are enhanced (in the form of employment opportunities) or avoided/minimised (social ills associated with construction activities)					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> 1. A Community Liaison Officer (CLO) must be appointed for the Project to deal with the employment of local labour and to interface between the Contractor and the local community. 2. Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on Project-related work, if applicable. 3. The Developer must be committed to involving and benefiting the communities surrounding the development, contributing to their development and growth. The principles of equality, Broad-Based Black Economic Empowerment (B-BBEE), gender equality and non-discrimination must be implemented. 4. Conduct structured and proactive engagement sessions within the municipal district, to expose local small, micro, and medium enterprises which will benefit from the proposed development. 5. Engage with local authorities and business organisations to investigate the feasibility of obtaining construction 	<p>Developer</p> <p>Contractor</p> <p>Community Liaison Officer</p>	<p>Labour recruitment policy</p> <p>Awareness training material relating to HIV/AIDS</p>	<p>Developer</p> <p>ECO</p>	<p>Once-off</p>	<p>Recruitment of local labour to be included in contract documentation</p> <p>HR and Labour Policy</p>



Management Objective: Negative social impacts are avoided or minimised and benefits are maximised					
Management Outcome: Social benefits and impacts associated with construction activities are enhanced (in the form of employment opportunities) or avoided/minimised (social ills associated with construction activities)					
<p>materials, goods, and products from local suppliers, where possible.</p> <p>6. Preference is given to suppliers that are local to the operation where the service will be consumed.</p> <p>7. A local procurement policy must be adopted by the developer to maximise the benefit to the local economy, where feasible</p> <p>8. Due to the concentration of a workforce in the area over the construction period, the Contractor must implement an HIV/AIDS Awareness Programme, annually on-site during construction.</p> <p>9. No informal settlements must be allowed.</p> <p>10. Project information must be communicated to Interested and Affected Parties (I&APs) to avoid misunderstandings and the creation of unrealistic expectations.</p> <p>11. Local Contractors and providers of goods and services must be used where practicable.</p>					

6.18 Health and Safety Plan

Management Objective: To reduce health and safety impacts during construction activities					
Management Outcome: A healthy and safe environment is ensured for workers and nearby community					
Impact Management Actions	Implementation		Monitoring		
<p>1. An Occupational Health and Safety Plan in line with relevant legislation will need to be developed that will address the following <i>inter alia</i>:</p> <ul style="list-style-type: none"> a. Worker safety; b. Rotating and moving equipment; c. Vibration; d. Eye hazards; e. Welding/hot work; f. Heavy duty vehicle driving and site traffic; g. Working at heights; 	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
	Health and Safety Practitioner	Occupational Health and Safety Plan Community Health and Safety Plan	SHEQ Officer	Monthly	Occupational Health and Safety Plan compliance Community Health and Safety Plan compliance



Management Objective: To reduce health and safety impacts during construction activities					
Management Outcome: A healthy and safe environment is ensured for workers and nearby community					
<ul style="list-style-type: none"> h. Air quality; i. Fire and explosions; and j. Personal protective equipment (PPE). <p>2. A Community Health and Safety Plan will need to be developed that will address the following <i>inter alia</i>:</p> <ul style="list-style-type: none"> a. Emergency preparedness and response; b. Traffic safety; c. Access control; d. Odour management; e. Noise management; f. Fire suppression and control; and g. Disease prevention. 					

6.19 Security Management Plan

Management Objective: To reduce security impacts during construction activities					
Management Outcome: Security impacts are adequately managed during construction					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> 1. A Security Plan must be developed before construction commences. 2. The construction site must be fenced off and access to the site must be through access control points. 3. No person must enter the site unless authorised to do so by the Contractor, PM and ESO. 4. Clear rules and regulations for access to the construction site to control loitering. 5. Trespassing on private properties adjoining the site is forbidden. 6. Employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions. 7. The surrounding landowners must be made aware of the dangers associated with the influx of workers during the construction period through the official communication channel set up in the SEP. 	Contractor	<p>Access Register</p> <p>Security Plan</p>	ESO ECO	Monthly	Site inspection Safety Plan compliance



7 ESMP: Post-Construction Rehabilitation Plan

Management Objective: Post-construction and rehabilitation activities are undertaken in a manner which prevents additional impacts to the ESMP				
Management Outcome: The site is rehabilitated according to ESMP specifications				
Impact Management Actions	Implementation		Monitoring	
<ol style="list-style-type: none"> 1. The Developer is responsible for compliance with the provisions for Duty of Care and Remediation of Damage in accordance with section 28 of National Environmental Management Act (NEMA), Act No. 107 of 1998. 2. A Method Statement for the Rehabilitation of Modified Environments must be compiled. 3. Areas where surface infrastructure have been decommissioned and removed must be suitably compacted and revegetated to ensure that no erosion occurs. 4. All remaining construction materials, building rubble and waste must be removed from the site. 5. Surfaces must be checked for waste products from activities such as concreting and cleared in a manner approved by the ESO and ECO. 6. Fences, barriers and demarcations associated with the construction phase must be removed from the site. 7. Disposal of waste must be in accordance with relevant legislative requirements. 8. All areas of incomplete construction must be completed and prepared for final rehabilitation and re-vegetation. 	Contractor	<p>Method Statement to be compiled for Rehabilitation of Modified Environments</p> <p>SDC</p>	ECO	<p>Monthly</p> <p>Approved Method Statement for the Rehabilitation of Modified Environments</p> <p>SDC</p>

8 ESMP: Operational Phase

8.1 Stakeholder Management Plan

Management Objective: Proper execution of stakeholder engagement and information disclosure					
Management Outcome: Clear and transparent communication between Developer and affected stakeholders					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> 1. The SEP and Grievance Mechanism implemented in the previous phase must be maintained and implemented during the operational phase of the Project. 2. Updating of the Grievance Register which as a minimum includes logging contact information of person lodging the complaint, date and time, nature of grievance and close out/outcome of grievance. 3. Grievances will be acknowledged in writing, within seven (7) days of receiving the grievance, through appropriate communication medium. 4. Responses (either oral or written) will be forwarded within 30 days of receiving the grievance. 	Operational Manager	SEP	SHEQ Officer	Annually	SEP Grievance Register

8.2 Social and Labour Management

Management Objective: Negative social impacts are avoided or minimised and benefits are maximised					
Management Outcome: Social benefits and impacts associated with operation activities are enhanced (in the form of employment opportunities) or avoided/ minimised (social ills associated with operational activities)					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> Prioritise hiring from the local community for all available positions. This will ensure that the benefits of employment are directly felt within the local community. In cases where highly skilled expertise is required, provide provisions for skills transfer. This will facilitate knowledge sharing within the local workforce and enhance the overall skill level of the community. Engage with local authorities and business organisations to investigate the feasibility of obtaining goods and products from local suppliers, where possible. Encourage the involvement of local businesses in providing materials, goods, and services during the operational phase of the project. Preference is given to suppliers that are local to the operation where the service will be consumed. Liaise with the local governmental structures and municipal authorities in the labour- sending communities to ensure that group development initiatives are integrated into the economic and development plans of those areas. 	Operational Manager	Labour Recruitment Policy	HR representative	Once-off	HR and Labour Policy

8.3 Protection of Ground-and Surface Water Resources Protection Plan

Management Objective: Operational-related activities is undertaken in a manner which prevent additional impacts to ground- and surface water resources					
Management Outcome: Impacts on ground- and surface water are minimised during operations					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> Effluent discharge must be according to the Service Level Agreement (SLA) terms and conditions. 					



Management Objective: Operational-related activities is undertaken in a manner which prevent additional impacts to ground- and surface water resources					
Management Outcome: Impacts on ground- and surface water are minimised during operations					
2. Potentially contaminating wastes produced during operations and maintenance activities must be stored in bunded areas until removed by a reputable Contractor for disposal at an appropriately licenced disposal facility. 3. Ensure that stormwater is monitored annually for contaminants. 4. Stormwater monitoring would also require a visual component where the stormwater system is visually assessed every month to identify issues (i.e., clogged systems, erosion and sedimentation) and then rectify the issues observed. 5. Refer to Section 10.1 for the proposed Groundwater Monitoring Plan.	Operational Manager	Prevention of any spillage and/or pollution of water resources Groundwater Monitoring Plan	SHEQ Officer	Monthly	SDCs Site inspections Compliance with the Groundwater Monitoring Plan

8.4 Hazardous Substances Management Plan

Management Objective: To minimise the risk of impact to the environment through the safe storage, handling, use and disposal of hazardous substances					
Management Outcome: The management of hazardous substances is undertaken in accordance with the Hazardous Substances Act (Act No. 15 of 1973)					
Impact Management Actions	Implementation		Monitoring		
General	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
1. Hazardous storage and refuelling areas must be bunded prior to their use on-site during operations following the appropriate SANS codes. 2. MSDSs for all hazardous substances must be readily available. 3. Drip trays with plugs must be utilised at all dispensing areas. 4. Drums (220l) or other suitable containers must be kept on-site to collect contaminated soil. These containers must be labelled and sealed to prevent the ingress of water. Contaminated soil must be disposed of at a licenced hazardous waste disposal facility.	Operational Manager	Bunding of hazardous storage sites MSDSs Inspections, communications, training, and drills	SHEQ Officer	Monthly	Site inspection of hazardous storage areas and inspection of drip trays and impervious surfaces



8.5 Spills, Incident and Pollution Control Plan

Management Objective: To avoid, manage and mitigate potential impact on the environment due to spillages					
Management Outcome: Impacts to the environment soils, surface and groundwater is avoided (where possible) or managed					
Impact Management Actions					
	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> In the event that a pollution incident occurs on-site, the Operational Manager must: <ul style="list-style-type: none"> Implement reasonable measures immediately to contain and minimise the impacts of the incident; Investigate and determine the root cause. These causes must be addressed in an Action Plan to prevent a recurrence; Notify all persons whose health is affected by the incident; Undertake clean up procedures immediately; Record the incident in the <i>Environmental Incident Register</i>; and Implement measures to prevent similar incidents from occurring in the future. In the event of a significant spillage that cannot be contained and which poses a serious threat to the environment, the following Departments must be informed within forty-eight (48) hours of the incident and in accordance with Section 30 of the NEMA: <ul style="list-style-type: none"> The relevant Municipality; The Department of Forestry, Fisheries and the Environment; Department of Water and Sanitation; The Local Fire Department. Spillages of fuels, oils and other potentially harmful chemicals must be cleaned up immediately and contaminants properly disposed of using appropriate spill kits. MSDS must be referred to for clean-up requirements. Any contaminated soil from the construction site must be removed and rehabilitated or disposed appropriately at the nearest landfill site. The EO must be notified immediately when a spill occurs. Park heavy machinery in lined areas and place drip trays under vehicles at the site. 	Operational Manager	Operational staff to be trained in spill management	SHEQ Officer	Monthly	<ul style="list-style-type: none"> Site inspection Inspection of Environmental Incident Register Compliance with Spill Contingency Plan Provision of spill kits

8.6 Water Supply Plan

Management Objective: Undertake responsible water usage during operation					
Management Outcome: Water for construction is compliant with the requirements of the National Water Act (Act No. 36 of 1998)					
Impact Management Actions		Implementation		Monitoring	
1.	Do not abstract more than what is approved in the water use licence for the borehole abstraction, or as determined by the borehole sustainable yield testing.	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Mechanism for Monitoring Compliance
2.	Ensure that the borehole collar is protected, to prevent any environmental runoff into the borehole.	Operational Manager	Approved/ licenced_sources of water	EM	Monthly Abstraction Log

8.7 Noise Management Plan

Management Objective: To avoid, manage and mitigate potential noise impacts during operation					
Management Outcome: Impacts to the noise sensitive receptors is avoided (where possible) or managed					
Impact Management Actions		Implementation		Monitoring	
1.	The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the plant.	Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Mechanism for Monitoring Compliance
2.	Bi-annual noise monitoring is recommended at NSR01 for the first year of operation (summer and during winter)	Operational Manager	Compliance with SANS 10103:2008 and OHS Act Use of appropriate PPE	SHEQ Officer	Monthly Site inspection
3.	Noise monitoring must consider the requirements of SANS 10103:2008.				
4.	Plant equipment such as generators, compressors, concrete mixers, and vehicles should be kept in good working order and, where possible, equipped with effective exhaust mufflers.				
5.	Machines in intermittent use must be shut down or throttled down to a minimum whenever practicable.				
6.	Noise levels must be kept within prescribed limits:				
	a. The recommended day-time zone sound level is 50dBA. The upper noise limit at NSR would be 55dBA (as per IFC's recommended noise limit for residential use).				



Management Objective: To avoid, manage and mitigate potential noise impacts during operation					
Management Outcome: Impacts to the noise sensitive receptors is avoided (where possible) or managed					
b. The recommended night-time zone sound level was 40dBA, with a night-time noise limit of 45dBA.					
7. All operations must meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).					

8.8 Dust, Emissions and Odour Management Plan

Management Objective: To reduce air quality (dust, emissions and odour) during operational activities					
Management Outcome: Minimal dust, emissions and odour due to adherence of management actions					
Impact Management Actions		Implementation		Monitoring	
		Responsible Person/s	Method of Implementation/Reference Document	Responsible Person	Frequency of Monitoring
1. It is recommended that an annual short-term (14-day) monitoring using passive diffusive sampling techniques for NO ₂ , VOCs and PM ₁₀ should be undertaken at three locations on the site boundary to ensure that compliance with NAAQS is maintained at the site boundary. <u>This should be undertaken prior to commissioning – to establish a site baseline - and after commissioning to show the cumulative impact of the facility.</u>		Operations Manager	<u>VOCs, NO₂ and PM₁₀ monitoring</u> Odour Complaints Register <u>Maintenance Management Plan</u>	SHEQ Officer	Monthly <u>VOCs, NO₂ and PM₁₀ monitoring records</u> Odour Complaints Register inspection <u>Maintenance Management Plan</u>
2. It is recommended that the facility monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint. It is further recommended that facility-wide inspections of all sources of fugitive emission sources be conducted and if any of the sources of dust are not being reasonably controlled, corrective action be taken.					
3. It is recommended that an odour complaints register be kept, and all complaints received noted, investigated and corrective action taken, where appropriate. Any corrective action taken should be noted in the register.					
4. <u>It is recommended that, if an on-site WWTP is commissioned, it be designed using best practice</u>					



<p>Management Objective: To reduce air quality (dust, emissions and odour) during operational activities</p> <p>Management Outcome: Minimal dust, emissions and odour due to adherence of management actions</p>					
<p><u>principles to reduce the impact of odours on surrounding communities.</u></p> <p>5. <u>It is recommended that a comprehensive air quality management plan (AQMP) be developed that incorporates the recommendations contained in this ESMP. The AQMP should contain detailed plans for the implementation of all the recommendations contained in this ESMP and Air Quality Impact Assessment, provide for stakeholder engagement and detailed plans for the management of complaints. The AQMP should include provisions for regular reviews of mitigation measures. It is recommended that the AQMP be submitted to the regulator for review and approval prior to the commissioning of the facility.</u></p> <p>6. <u>It is recommended that maintenance of the baghouses be performed if visible emissions exceed 0% opacity. In addition, the pressure drop across the baghouses is required to be maintained within manufacturer and the operation and maintenance manual specifications.</u></p> <p>7. <u>It is recommended that performance tests on the baghouse(s) to ensure that the emission limit of 10 mg/m3 is not exceeded.</u></p> <p>8. <u>PM2.5 as well as PM10 should be measured to provide more accurate data for future assessments. It is recommended that as minimum the following emission sources be monitored periodically for PM emissions:</u> a. <u>all baghouse sources; and,</u> b. <u>kilns.</u></p> <p>9. <u>It is further recommended that performance testing be conducted to ensure that the following equipment achieve the performance standard set by the manufacturer for NOx emissions:</u> a. <u>CHP units; and,</u> b. <u>boilers.</u></p> <p>10. <u>A Maintenance Management Plan must be compiled that will outline good housekeeping and operational practices related to dust and emissions.</u></p>					

8.9 Waste Management

Management Objective: To avoid, manage and mitigate potential waste impacts during the operational phase					
Management Outcome: Potential impacts to the environment caused by waste (general and hazardous) are avoided or managed					
Impact Management Actions	Implementation		Monitoring		
	Responsible Person/s	Method of Implementation	Responsible Person	Frequency of Monitoring	Mechanism for Monitoring Compliance
<ol style="list-style-type: none"> Adequate rubbish bins and waste disposal facilities (general and hazardous waste) must be provided at the plant. Hazardous waste bins must be clearly marked, stored in a contained area (or have a drip tray) and covered (either stored under a roof or the top of the container must be covered with a lid). Hazardous waste must be disposed of at a licenced hazardous waste landfill site. Waste bins must be cleaned out weekly or when capacity has been reached to prevent any windblown waste and/ or visual disturbance. Skips must be covered and bins must have lids. A full paper trail for waste disposal must be kept that includes: permits to operate (handle, transport waste); Waste Management Licences (for both storage and waste disposal facilities - where applicable) for Waste Handling Contractor/s; Waste Registrations (for storage of waste, and recycling facilities - where applicable) for Waste Handling Contractor/s; Waste Manifests; Weighbridge Certificates; Safe Disposal Certificates and Certificates of Recycling. Effluent discharge must be according to the SLA terms and conditions. 	Operational Manager	General house-keeping Provision of bins Waste Register/Matrix Waste documents Awareness training on waste minimisation and re-use	EM	Monthly	Updated Waste Register/Matrix Provision of waste disposal facilities (bins & skips) Proof of waste documents (SDCs, weighbridge receipts, recycling certificates)

9 ESMP: Decommissioning Phase

At this point of the Project planning process, the necessity for and timing of the decommissioning of the proposed Project is not known as the malt plant will be in operation for the next 50 years. Soufflet Malt will further ensure upon site closure and decommissioning of the authorised activity, an application in terms of applicable legislation (if necessary) will be made.

Other management actions include the compilation of:

- A Decommissioning Management Plan.
- Site Rehabilitation and Re-vegetation Plan.
- Dust and Emission Management Plan.
- Waste Management Plan.

10 Monitoring Plans

The following monitoring plans are recommended for this Project.

10.1 Geohydrological Monitoring

It is proposed that a formal Groundwater Monitoring plan be considered to monitor any potential impacts on the downstream environment and to maintain a record of the environmental impact that will take place.

Based on the findings of this investigation and numerical simulations the following improvements are proposed:

- A total of 4 monitoring boreholes are proposed. Proposed drilling coordinates are presented in Table 10-1 and typical construction considerations are presented in Figure 10-2. Monitoring locations are shown in Figure 10-1.
- Monthly water level monitoring of the abstraction borehole should take place.
- Monthly abstraction volumes should be taken and kept on record.
- Monitoring for all monitoring boreholes should be bi-annually (minimum) and constituents on minimum for laboratory screening should be:
 - pH in water at 25°C
 - Conductivity in mS/m @ 25°C
 - Total Dissolved Solids (TDS)
 - Bicarbonate Alkalinity as CaCO₃
 - Bicarbonate as CaCO₃
 - Total Alkalinity as CaCO₃
 - Biological oxygen demand (BOD)
 - Chemical oxygen demand (COD)
 - Calcium
 - Magnesium
 - Potassium
 - Sodium
 - Chloride
 - Fluoride
 - Nitrate
 - Sulphate
 - Aluminium
 - Iron
 - Manganese
- Monitoring of abstraction boreholes should be monthly if used for processing, and constituents analysed would need to conform to the food industry or bottling standards.

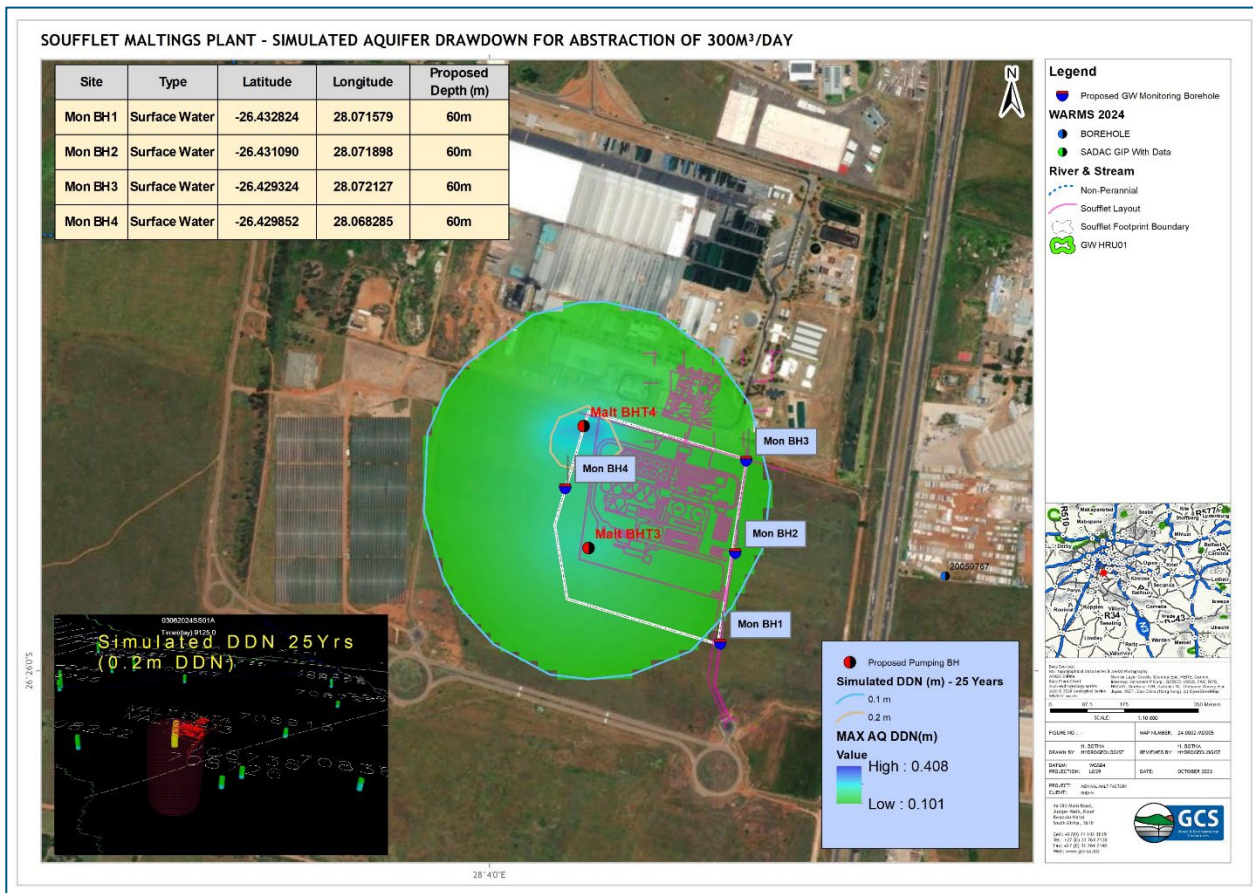


Figure 10-1: Proposed monitoring boreholes locations

Table 10-1: Proposed monitoring borehole drilling positions

Site	Type	Latitude	Longitude	Proposed Depth
Mon BH1	Surface Water	-26.432824	28.071579	60m
Mon BH2	Surface Water	-26.431090	28.071898	60m
Mon BH3	Surface Water	-26.429324	28.072127	60m
Mon BH4	Surface Water	-26.429852	28.068285	60m

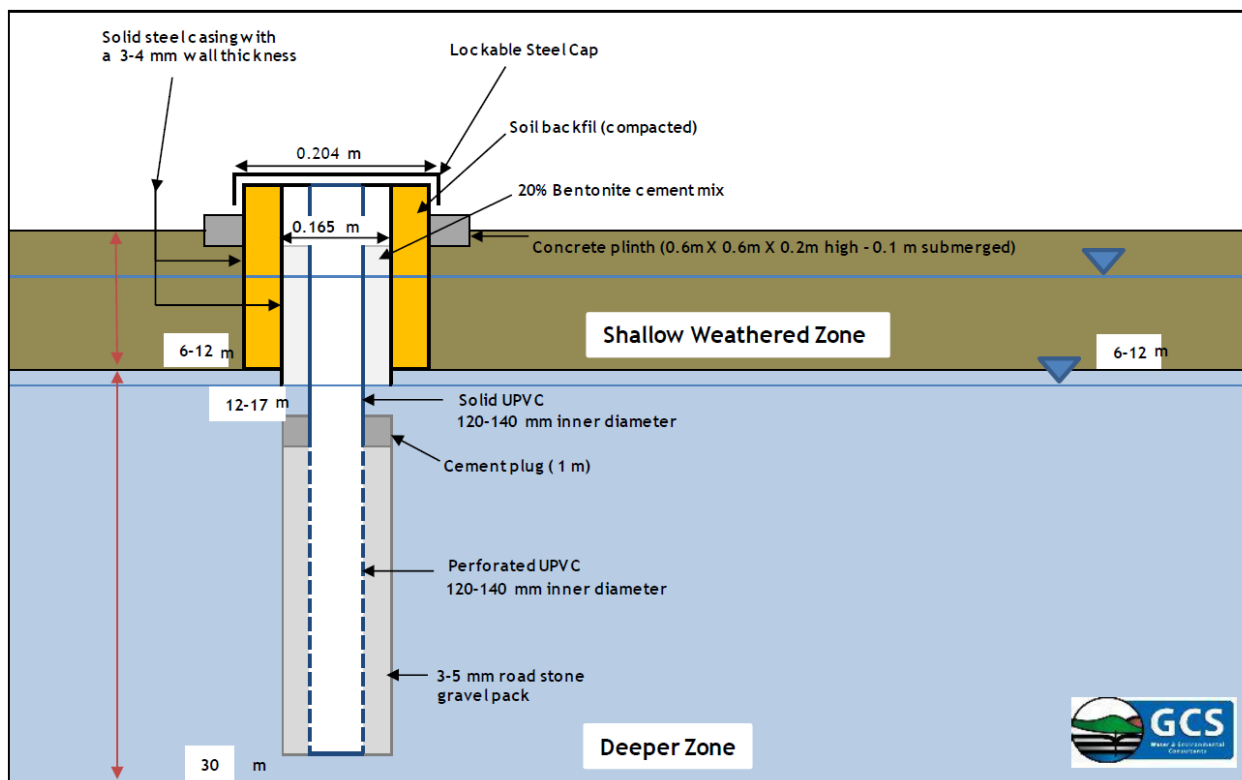


Figure 10-2: Proposed concept borehole construction

10.2 Air Quality

10.2.1 Ambient Monitoring

Environmental indicators are used in air quality monitoring to simplify environmental assessments. Indicators are defined as a single measure of a condition of an environmental element that represents the status or quality of that element, and a threshold is the value of an indicator or index. For example, ambient PM₁₀ concentrations monitored within a specific area will be the indicator, with the NAAQS being the threshold.

It is recommended that an annual short-term (14-day) monitoring using passive diffusive sampling techniques for NO₂, VOCs and PM₁₀ should be undertaken at three locations on the site boundary to ensure that compliance with NAAQS is maintained at the site boundary.

10.2.2 Source Monitoring

It is recommended that maintenance of the baghouses be performed if visible emissions exceed 0% opacity. In addition, the pressure drop across the baghouses is required to be maintained within manufacturer and the operation and maintenance manual specifications. It is recommended that performance tests on the baghouse(s) to ensure that the emission limit of 10 mg/m³ is not exceeded. PM_{2.5} as well as PM₁₀ should be measured to provide more accurate data for future assessments. It is recommended that as minimum the following emission sources be monitored periodically for PM emissions:

- All baghouse sources; and
- kilns.

It is further recommended that performance testing be conducted to ensure that the following equipment achieve the performance standard set by the manufacturer for NO_x emissions:

- Combined heat and Power (CHP) units; and
- Boilers.

10.3 Climate Change Reporting

Based on the information available at the conceptual phase of design, Scope 1 emissions for the Project construction would be 2645 tCO₂e (mostly due to fuel use of 473t CO₂e per annum). In the operational phase, Scope 1 emissions over the Project lifetime amount to 950 102 tCO₂e (19002 tCO₂e per annum) due to gas combustion in the CHP. This was calculated to represent a maximum 0.0054% of the remaining South African annual Greenhouse Gas (GHG) budget. The site clearance and replacement with permanent infrastructure would potentially result in a reduction in the National grassland carbon sink by 0.002%.

The Project will be required to report CO₂-e emissions annually via the SAGERS web-based monitoring and reporting system.

11 Compliance with Environmental Specification

The ESMP must form part of the Tender and Contract Documentation and is thus a legally binding document. It is also required for the Contractor to make provisions as part of their budgets for the implementation of the ESMP. In terms of Polluter Pays Principle. Section 28 of the NEMA, an individual responsible for environmental damage must pay the costs for both environmental and human health damage. As far as possible reasonable, feasible and implementable measures must be in place to reduce or prevent additional pollution and/ or environmental damage from occurring.

The ESMP must be considered to be an extension of the Conditions of Approval as set forth by the GDARDE as well as any other regulatory authority for relevant permits and/or licences. As such, non-compliance with the ESMP will constitute non-compliance with said Conditions.

The Contractor (as well as sub-contractors, service providers and suppliers) is deemed not to have complied with the ESMP if:

- There is evidence of contravention of clauses within the boundaries of the site, site extensions, construction laydown area and/or haul/access roads;
- Environmental damage ensues due to negligence;
- The Contractor ignores or fails to comply with corrective or other instructions issued by the Developer, PM or ECO, within a specified time; or
- The Contractor (as well as sub-contractors, service providers and suppliers) fails to respond to complaints from the public.

Non-Compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance. Non-compliance with the conditions of the ESMP constitutes a breach of contract.

Application of a penalty clause will apply for incidents of non-compliance. The Contractor (as well as sub-contractors, service providers and suppliers) must be allowed one non-compliance and a Written Warning Notification must be issued to the Contractor's ESO. Failure to rectify the non-compliance within an agreed upon time of the issue of the warning or a repeat non-compliance will result in a penalty.

The penalty must be issued by a representative of the Developer. The penalty imposed must be per incident at the discretion of the Developer's Project Manager or any other duly authorised representative. The value of the penalty imposed shall be as defined in the contract and enforcement shall be at the discretion of the Developer. Such fines must be issued in addition to any remedial costs incurred as a result of non-compliance with the ESMP. The Developer will inform the Contractor of the contravention and the amount of the penalty and will deduct the amount from monies due under the Contract. The penalty monies must become the property of the Developer to be used for rehabilitation and maintenance of the site.

Unless stated otherwise in the Project specification the penalties imposed per incident or violation must be:

Table 11-1: Penalties applicable

OFFENCE	AMOUNT
Failure to respond to complaints within specified timeframe	R10,000
Failure to close findings raised by the ECO within specified timeframes	R10,000
Failure to demarcate working areas	R10,000
Working outside of demarcated areas	R30,000
Failure to strip topsoil with intact vegetation	R50,000

OFFENCE	AMOUNT
Failure to stockpile topsoil correctly	R30,000
Failure to stockpile materials in designated areas	R10,000
Failure to take measures to prevent soil contamination	R10,000
Failure to take measures to control dust dispersion on-site and on access roads leading to site	R10,000
Pollution of water bodies and/ or groundwater	R20,000
Failure to implement stormwater management provisions during construction	R20,000
Failure to implement/maintain erosion controls	R30,000
Failure to provide adequate sanitation	R10,000
Failure to provide adequate waste disposal facilities and services	R50,000
Failure to reinstate disturbed areas within the specified <u>time-frame</u>	R30,000
Any other contravention of the Project specific specification	R10,000

11.1 Removal from Site and Suspension of Works

Failure to remediate after the issue of a financial penalty, depending on the severity and significance of the impact related to non-compliance, the ECO may undertake to report directly to the GDARDE (Compliance) recommending that for:

- High impact: to issue a notice to cease construction;
- Medium impact: to issue a notice instructing the Developer to implement recommended remedial action;
or
- Low impact: ECO to notify, but up to discretion of GDARDE to apply sanction.

The Developer, at the direction of the ECO, or of his/her own conviction, has the power to remove from site any person who is in contravention of the ESMP, and if necessary, the Developer can suspend part or the whole of the works, as required.

Project related



Appendix A : ESIA Team CVs



Curriculum Vitae

Sibongile Gumbi

Senior Environmental Consultant
& Project Manager.
Smart Mobility



Sibongile Gumbi has sixteen years' experience in the environmental field. Her expertise ranges from Strategic Environmental reporting, Environmental Training, Environmental Auditing and Monitoring, Environmental Impact Assessment, Environmental Management Plans and Programmes, Stakeholder Engagement, Project Management and Mentoring.

She is well-versed in strategic environmental advisory and environmental reporting as well as ensuring that reporting is in accordance with the local Environmental Legislation, Frameworks and International Standards.

Nationality

South African

Years of Experience

16 year(s)

Years with Royal HaskoningDHV

16 year(s)

Professional Memberships

South African Council for Natural Scientific Professions-
[Redacted]
Environmental Assessment Practitioners Association of South Africa [Redacted]

Qualifications

2014 MSc, Environmental Sciences, UNISA

2009 BSc (Hons) Environmental Monitoring and Modelling, UNISA

2006 National Diploma Environmental Sciences, Tshwane University of Technology

Research and Publications

Gumbi SE & Rampedi IT. (2017): Waste Material Recovery Rates, Incomes, and Challenges Facing Informal Waste Reclaimers in the Ekurhuleni Metropolitan Municipality, Gauteng Province of



**Royal
HaskoningDHV**
Enhancing Society Together

South Africa - An exploratory study (2017) - *The 33rd International Conference on Solid Waste Technology and Management March 11-14, 2018, Annapolis, MD U.S.A.*

Gumbi SE & Rampedi IT. (2018): A Survey on Selected Households within the Ekurhuleni Metropolitan Municipality to Participate in Solid Waste Management and Recycling: *24th Waste Conference; 15-19 October 2018, Emperors Palace, South Africa.*

Professional Experience

Vaal University Of Technology: Campus Infrastructure Master Plan Development in Vanderbijlpark, Gauteng Province.

> Start Date: 2023-2024

> Client Name: GAPP Architects

> Project Value: R 600 000

Brief Description: Master Plan for the Vanderbijlpark Campuses and Edu-City (Sebokeng) Campus.

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and Client liaison.

Polokwane Master Plan: Urban Renewal Study/ CBD Master Planning for the City of Polokwane (Project 1).

> Start Date: 2022-2024

> Client Name: GAPP Architects

> Project Value: R 900 000

Brief Description: Status Quo Urban Renewal Study/ CBD Master Planning for the City of Polokwane (Project 1).

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and Client liaison.

Environmental Site Assessment for the Cato Ridge Depot, KwaZulu-Natal.

> Start Date: 2022-2022

> Client Name: APM Terminals

> Project Value: R 365 000

Brief Description: Environmental Site Assessment , Water Use Authorisation Assessment and Wet services Gap Analysis.

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and maintaining Client relationship.

Environmental Authorisation Amendment of the Northfield Business Park, eThekweni Municipality, KwaZulu-Natal.

> Start Date: 2022-2023

> Client Name: Northfield Business Park

> Project Value: R 100 000

Brief Description: Part 1 Environmental Authorisation Amendment which entails Consultation with Environmental Authorities.

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and maintaining Client relationship.

Provision of Additional Services Identified in the Phase 1a Operational Audits of the Northfield Business Park, eThekweni Municipality, Kwazulu-Natal.

> Start Date: 2022-2023

> Client Name: Northfield Business Park

> Project Value: R 300 000

Brief Description: Method Statement for Environmental Maintenance and Monitoring, Method Statement of Waste Management, Training, and Environmental Audits.

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and maintaining Client relationship.

Environmental Control Officer Services for the Longlake Development in Modderfontein, Gauteng Province.

> Start Date: 2021-2022

> Client Name: Capital Propfund

> Project Value: R 300 000

Brief Description: Fortnightly Environmental Control Officer Services which entails monitoring the construction activities that they comply with environmental conditions stipulated within the EMP and Environmental Authorisation.

Position: Project Manager

Assigned Tasks: Review of project documentation, invoicing and maintaining Client relationship.

Environmental Management Framework for the Three District Municipalities in Three Provinces: John Taolo Gaetsewe (Northern Cape), uMkhanyakude (KwaZulu Natal) and Waterberg (Limpopo).

> Start Date: 2020-2021

> Client Name: Department of Agriculture, Land Reform and Rural Development

> Project Value: R 68 000.00

Brief Description: Review of Environmental Management Framework which entails public participation process, compilation of various reports that includes status quo assessment, commodities and enterprise.

Position: Consultant

Assigned Tasks: Responsible for the John Taolo District Municipality EMF and associated reporting.

Annual Environmental Audit for the Sinter Bag House, Carbon Separation Plant and Kilns 5 and 6 at Vanderbijlpark Works, Gauteng Province

> Start Date: 2020

> Client Name: ArcelorMittal

> Project Value: R 60 000.00

Brief Description: Environmental Performance Audit for the Sinter Bag House, Carbon Separation Plant & Kilns 5 & 6.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports and Compilation of the Environmental Audit Report.

Annual Environmental Audit for the Ash Dump (SNS Bricks site) at the ArcelorMittal Vereeniging Works, Gauteng Province

> Start Date: 2020

> Client Name: ArcelorMittal

> Project Value: R 70 000.00

Brief Description: Environmental Performance Audit for the Ash Dump (SNS Brick Site) at the ArcelorMittal Vereeniging Works.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports, Site Inspection and Compilation of the Environmental Audit Report.

Environmental Advisory Services for the City of Tshwane Metropolitan Municipality Gauteng Province

> Start Date: 2019 - 2020

> Client Name: City of Tshwane Metropolitan Municipality

> Project Value: R 3 000 000.00

Brief Description: Environmental Advisory Services for the City of Tshwane Metropolitan Municipality.

Position: Project Manager

Assigned Tasks: Daily project management, Atmospheric Emissions Licence, Occupational Health and Safety, Training and Surveys.

Annual Environmental Audit for the Ash Dump (SNS Bricks site) at the ArcelorMittal Vereeniging Works, Gauteng Province

> Start Date: 2019

> Client Name: ArcelorMittal

> Project Value: R 60 000.00

Brief Description: Environmental Performance Audit for the Ash Dump (SNS Brick Site) at the ArcelorMittal Vereeniging Works.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports, Site Inspection and Compilation of the Environmental Audit Report.

Annual Environmental Audit Report for the H:H ArcelorMittal (CRM) Dry Metallurgical Waste Disposal and Transfer Licence at Vanderbijlpark Works, Gauteng Province

> Start Date: 2019

> Client Name: ArcelorMittal

> Project Value: R 68 000.00

Brief Description: Environmental Performance Audit for the H:H ArcelorMittal (CRM) Dry Metallurgical Waste Disposal and Transfer Licence at Vanderbijlpark Works.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports, Site Inspection and Compilation of the Environmental Audit Report

Biennial environmental audit for the implementation of the PCB phase out plan for ArcelorMittal Vanderbijlpark, Gauteng Province

> Start Date: 2019

> Client Name: ArcelorMittal

> Project Value: R 58 000.00

Brief Description: Biennial environmental audit for the implementation of the PCB phase out plan for ArcelorMittal Vanderbijlpark.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports, Site Inspection and Compilation of the Environmental Audit Report

Annual Environmental Audit for New Coke Oven Batteries at ArcelorMittal Vanderbijlpark, Gauteng Province

> Start Date: 2019

> Client Name: ArcelorMittal

> Project Value: R 68 000.00

Brief Description: Annual Environmental Audit for New Coke Oven Batteries at ArcelorMittal Vanderbijlpark, Gauteng Province.

Position: Project Manager and Auditor

Assigned Tasks: Review of the Environmental Permits and Reports, Site Inspection and Compilation of the Environmental Audit Report

Environmental and Social Impact Assessment for the 20MW PV Plant in Mafeteng District, Lesotho

> Start Date: 2018

> Client Name: One Power

> Project Value: R 2 500 000.00

Brief Description: Environmental and Social Impact Assessment for the Project

Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment for the Naledi Clinic in Johannesburg, South Africa

> Start Date: 2018

> Client Name: Johannesburg Development Agency

> Project Value: R 500 000.00

Brief Description: Environmental Impact Assessment for the Project

Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment for the Bez Valley Clinic in Johannesburg, South Africa

> Start Date: 2017

> Client Name: Johannesburg Development Agency

> Project Value: R 500 000.00

Brief Description: Environmental Impact Assessment for the Project

Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment and Water Use Authorisation for the Firham Platrand 132KV Powerline in Standerton, South Africa

> Start Date: 2017

> Client Name: Eskom Holdings

> Project Value: R 500 000.00

Brief Description: Environmental Impact Assessment for the Project

Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment and Water Use Authorisation for the upgrade of the P393 road and associated bridges between Empangeni and Nkwaleni, South Africa

> Start Date: 2017

> Client Name: KZN Department of Transport

> Project Value: R 500 000.00

Brief Description: Environmental Impact Assessment for the Project

Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment for the Construction of the Water pipelines and associated infrastructure at Nkandla South Africa

> Start Date: 2017
> Client Name: Department of Rural Development
> Project Value: R 300 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Environmental Impact Assessment and Water Use Authorisation for the upgrade of the Klippan Pumpstation in Welkom, South Africa

> Start Date: 2017
> Client Name: Matjhabeng Local Municipality
> Project Value: R 600 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Environmental Screening and Water Use Authorisation for the upgrade of the Ingula Road and Ancillary Infrastructure in Laydsmith, South Africa

> Start Date: 2017
> Client Name: Eskom Holdings
> Project Value: R 350 000.00
Brief Description: Environmental Screening for the Project
Position: Project Manager
Assigned Tasks: EIA reports and Water reports compilation and daily project management.

Environmental Screening for the upgrade of the Florida North, Jukskei and Zandspruit Pumpstations in Johannesburg, South Africa

> Start Date: 2017
> Client Name: Johannesburg Water
> Project Value: R 300 000.00
Brief Description: Environmental Screening for the Project
Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Environmental Monitoring and Auditing of the Vaal Gamagara Water Pipeline Upgrade, South Africa

> Start Date: 2016
> Client Name: Sedibeng Water
> Project Value: R 1.200 000.00
Brief Description: Environmental Monitoring and Auditing for the upgrade of Vaal Gamagara Water Pipeline Upgrade Rehabilitation from Khathu to Hotazel.
Position: Environmental Auditor
Assigned Tasks: Audit reports compilation and monthly monitoring of construction activities.

Environmental Monitoring and Auditing of the N1 Bela-Bela Highway Rehabilitation, South Africa

> Start Date: 2015
> Client Name: South African National Road Agency Limited
> Project Value: R 700 000.00
Brief Description: Environmental Monitoring and Auditing for the Rehabilitation of N1 between Bela-Bela to Polokwane, Limpopo Province
Position: Environmental Auditor
Assigned Tasks: Audit reports compilation and monthly monitoring of construction activities.

Green existing by-laws and develop a set of new environmental by-laws or amend the existing by-laws, Ekurhuleni, South Africa

> Start Date: 2015
> Client Name: Ekurhuleni Metropolitan Municipality
> Project Value: R 1 200 000.00
Brief Description: Review the existing Ekurhuleni by-laws by introducing environmental considerations and develop a set of new environmental by-laws if required.
Position: Environmental Advisor
Assigned Tasks: Strategic assessment of by-laws; drafting of new by-laws and public consultation.

Environmental Impact Assessment for the Swaziland Hydropower Station, Swaziland

> Start Date: 2015
> Client Name: MTK Sustainable Technologies
> Project Value: R 1 500 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Magalies Water PMU, South Africa

> Start Date: 2014
> Client Name: Magalies Water
> Project Value: R 500 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Basic Environmental Impact Assessment for the Development of Mzinti Feedlot at Nkomazi Local Municipality, South Africa

> Start Date: 2014
> Client Name: Department of Rural Development
> Project Value: R 250 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Basic Assessment for the Proposed Waterborne Sewer in Mayflower Village, South Africa

> Start Date: 2014
> Client Name: Department of Rural Development
> Project Value: R 250 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager

Assigned Tasks: EIA reports compilation and daily project management.

Upgrade of Roberts International Airport in Liberia

> Start Date: 2014
> Client Name: Netherlands Airports Company
> Project Value: R 200 000.00
Brief Description: Construction Environmental Management Plan for Roberts International Airport in Liberia
Position: Environmentalist
Assigned Tasks: Compilation of environmental documents.

Basic Assessment for the Proposed 44kV Powerline and Substation in Delmas North, South Africa

> Start Date: 2014
> Client Name: Department of Rural Development
> Project Value: R 300 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Environmental Monitoring & Auditing for 44kV Underground Cables, South Africa

> Start Date: 2013
> Client Name: Eskom Holdings SOC Limited
> Project Value: R147, 805.00
Brief Description: Environmental Monitoring and Auditing
Position: Project Manager
Assigned Tasks: Conduct site inspections, compile reports and Client liaison.

North West Province Environmental Outlook

> Start Date: 2014
> Client Name: North West Department of Economic Development, Environment Conservation and Tourism
> Project Value: R1 200 000.00
Brief Description: Compilation of the State of Environment Report for the North West, specialist contributions, report writing and publication.
Position: Environmentalist
Assigned Tasks: Waste specialist.

ASIDI Programme-Free State Schools (Kroon Stand and Vrededfort) Upgrade, South Africa

> Start Date: 2013
> Client Name: Free State Department of Education
> Project Value: R170, 805.00
Brief Description: Environmental Monitoring and Auditing
Position: Environmental Advisor
Assigned Tasks: Compilation of environmental management programme and liaison with environmental authorities.

Basic Assessment for the Lydenburg to Merensky 132kV Powerline, South Africa

> Start Date: 2013
> Client Name: Eskom Holdings SOC Limited
> Project Value: R800,000.00
Brief Description: Environmental Assessment
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Environmental Authorisation Amendment Application for the Johannesburg East Strengthening Project, South Africa

> Start Date: 2013
> Client Name: Department of Rural Development
> Project Value: R 150 000.00
Brief Description: Environmental Impact Assessment for the Project
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Basic Assessment for the High Chrome Ball Plant in Germiston, South Africa

> Start Date: 2013
> Client Name: Scaw Metal
> Project Value: R350, 000.00
Brief Description: Environmental Assessment
Position: Project Manager
Assigned Tasks: EIA reports compilation and daily project management.

Nigeria Highway Manual Design and Maintenance Update, Nigeria

> Start Date: 2012
> Client Name: Federal Ministry of Transportation
> Project Value: R400, 200.00
Brief Description: Nigeria Highway Manual Design and Maintenance Update, Nigeria
Position: Environmentalist
Assigned Tasks: Research and compilation of environmental documentation.

Western Cape State of Environment Report

> Start Date: 2012
> Client Name: Western Cape Department of Environmental Affairs and Development Planning
> Project Value: R938, 200.00
Brief Description: Compilation of the first update of the State of the Environment Report for the Western Cape, including project management, specialist contributions, report writing and publication.
Position: Environmentalist
Assigned Tasks: Climate change specialist.

Environmental Impact Assessment (EIA) for P166/1-2 New Route in Nelspruit Ubuntu Engineering Consultants for SANRAL, South Africa

> Start Date: 2012
> Client Name: Ubuntu (Pty) Ltd
> Project Value: R437,836.00
Brief Description: Environmental Impact Assessment (EIA) of the Proposed New Route P166-1/2 in Mbombela /Nelspruit.
Position: Environmentalist
Assigned Tasks: Social impact Assessment, conducting stakeholder engagement and incorporating the findings of other specialist impact assessments.

Independent Environmental Control Person for the Gautrain Project - 2011-2012 Period, South Africa

> Start Date: 2011
> Client Name: Gauteng Department of Roads and Transport
> Project Value: R2,534,528.00
Brief Description: Project Management of Environmental Auditing function for the Gautrain. Specialists for the project

includes air quality, noise and vibration and ecological. Conducting site inspections and auditing, public liaison, chairing environmental management committee for the construction and operational phases of the Gautrain.

Position: Environmentalist

Assigned Tasks: Document controlling, project administration and administrative support at monthly meetings.

Basic Assessment, Water Use Licence and Mining Permit for the upgrade of N11 Road in Mokopane, South Africa

> Start Date: 2011

> Client Name: South African National Roads Agency

> Project Value: R950, 000.00

Brief Description: Environmental Assessment

Position: Project Manager

Assigned Tasks: EIA, Water licence and mining reports compilation as well as daily project management.

Compliance Audits for the Return to Service of Power Stations in Mpumalanga Province, South Africa

> Start Date: 2010

> Client Name: Eskom Holdings

> Project Value: R150 000.00

Brief Description: Environmental Monitoring and Auditing

Position: Project Manager and Auditor

Assigned Tasks: Audit reports compilation as well as daily project management.

Environmental Assessment for the Sugar Cane Industry, South Eastern Lowveld, Zimbabwe

> Start Date: 2010

> Client Name: Canelands Trust

> Project Value: R950, 000.00

Brief Description: Environmental Assessment

Position: Project Advisor

Assigned Tasks: Stakeholder and authority liaison and compilation.

Environmental Monitoring & Auditing for 132kV Underground Cables and Refurbishment of the Croydon and Lombardy East Substations, South Africa

> Start Date: 2009-2011

> Client Name: Eskom Holdings SOC Limited

> Project Value: R450, 000.00

Brief Description: Environmental Monitoring and Auditing

Position: Project Manager

Assigned Tasks: Conduct site inspections, compile reports and Client liaison.

Eskom Line Rebuilt project - Midrand, South Africa

> Start Date: 2009

> Client Name: Eskom Holdings SOC Limited

> Project Value: R129, 080.00

Brief Description: Compile an Environmental Management Plan (EMP) for the upgrade of various 88 kV lines situated around Midrand.

Position: Specialist

Assigned Tasks: Assist in the public participation process and provide input, Assist with the compilation of project documentation, public participation, authority consultation and liaison with the specialist team.

Randwater Pipeline upgrade between Alberton and Boksburg - Basic Assessment, South Africa

> Start Date: 2009

> Client Name: Bigen Africa

> Project Value: R330, 000.00

Brief Description: Basic Assessment for the upgrade of the water pipeline between Boksburg and Alberton.

Position: Environmentalist

Assigned Tasks: Environmental Impact Studies, Environmental Management Plan

Proposed upgrade of Bridges 1 & 3, between Bethal & Hendrina (Road D622 upgrade), South Africa

> Start Date: 2009

> Client Name: Lategan Bouwer Civil & Structural Engineers

> Project Value: R129, 987.50

Brief Description: Basic Assessment for the upgrade of bridges 1 and 3 along Road D622 in Bethal, Mpumalanga Province

Position: Environmentalist

Assigned Tasks: Environmental Impact Studies, Environmental Management Plan.

Environmental Impact Assessment for the Rehabilitation of National Route 8 Section 12 between Tweespruit and Ladybrand, South Africa

> Start Date: 2008
> Client Name: PD Naidoo and Associates
> Project Value: R258, 764.00
Brief Description: Compile Environmental Scoping, Impact Assessment and Management Programme Reports required for obtaining of rights/permits for Road Rehabilitation
Position: Environmentalist
Assigned Tasks: Environmental Impact Studies, Environmental Management Plan.

Germiston North substation extension & Isando 44 KV Line - Basic Assessment, South Africa

> Start Date: 2008
> Client Name: Eskom Holdings SOC Limited
> Project Value: R129, 392.50
Brief Description: Basic Assessment for the Germiston North substation extension & Isando 44 KV powerline
Position: Environmentalist
Assigned Tasks: Environmental Impact Studies, Environmental Management Plan

Lombardy East Substation extension and Access Road as well as Bedfordview Substation Ext - Basic Assessment, South Africa

> Start Date: 2008
> Client Name: Eskom Holdings SOC Limited
> Project Value: R129, 392.00
Brief Description: Basic Assessment for SAR Buttweid Isando East 44kV Powerline and the Upgrade of the Germiston North Substation
Position: Environmentalist
Assigned Tasks: Environmental Impact Studies, Environmental Management Plan

Environmental Impact Assessment of Vryburg Substation, South Africa

> Start Date: 2008
> Client Name: Eskom Holdings SOC Limited
> Project Value: R1, 081,352.00
Brief Description: Undertake an Environmental Impact Assessment of Vryburg Substation.
Position: Administrator
Assigned Tasks: Project Administrative Support, Internal Systems Project cost controller.

Environmental Impact Assessment of the Johannesburg East Strengthening between Mpumalanga and Gauteng Provinces, South Africa

Start Date: 2008
Client Name: Eskom Holdings SOC Ltd
Position: Project Manager
Assigned Tasks: Daily project management and project documentation compilation.

Environmental Impact Assessment for Melelane Boulders 132kV sub-transmission line, Mpumalanga Province, South Africa

Start Date: 2008
Client Name: Eskom Holdings SOC Ltd
Position: Environmentalist
Assigned Tasks: Environmental Impact report, Environmental Management Plan compilation and stakeholder engagement.

Power Generating Plant - Arcelor Mittal in Vanderbijlpark, Gauteng Province, South Africa

Start Date: 2008
Client Name: ArcelorMittal South Africa
Position: Environmentalist
Assigned Tasks: Environmental Impact report, Environmental Management Plan compilation and stakeholder engagement.

Witkloof Thuli 132 kV Sub-transmission line, South Africa

Start Date: 2007
Client Name: Eskom Holdings SOC Ltd
Position: Environmentalist
Assigned Tasks: Environmental Impact report, Environmental Management Plan compilation and stakeholder engagement.

Revision of Vygeboom Environmental Management Plan in Badplass, Mpumalanga Province, South Africa

Start Date: 2007
Client Name: Eskom Holdings SOC Ltd
Position: Environmentalist
Assigned Tasks: Amendment of the environmental management plan for the Vygeboom 22kV power line.

Environmental Capacity Building Training for the City of Johannesburg Municipality, Gauteng Province, South Africa

Start Date: 2008

Client Name: City of Johannesburg Metropolitan Municipality

Position: Environmentalist

Assigned Tasks: Environmental Capacity Building Training for the municipal employees.

Basic Assessment Winterveld Water Pipeline in Pretoria, Gauteng Province, South Africa

Start Date: 2007

Client Name: Randwater

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Environmental Impact Assessment for the Ferrochrome to Rockdale 132kV Powerline in Middelburg, Mpumalanga Province, South Africa

Start Date: 2007

Client Name: Eskom Holdings SOC Ltd

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Environmental Impact Assessment for Arnot Ashwater Return Dam in Hendrina, Mpumalanga Province, South Africa

Start Date: 2007

Client Name: Eskom Holdings SOC Ltd

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Environmental Impact Assessment for Steelpoort Pumped Storage Scheme in Limpopo Province, South Africa

Start Date: 2007

Client Name: Eskom Holdings SOC Ltd

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Environmental Impact Assessment for South African Breweries CO2 Storage Tanks in Rosslyn, Pretoria, Gauteng Province, South Africa

Start Date: 2007

Client Name: South African Breweries

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Mining Permit for the Establishment of Borrow pits, in Bethal, Mpumalanga Province, South Africa

Start Date: 2007

Client Name: Roshcon Pty Ltd

Position: Environmentalist

Assigned Tasks: Compilation of the environmental reports and stakeholder engagement.

Certification:

I, the undersigned, clarify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client.

Signed: S.G.

Date: 29 January 2024



Curriculum Vitae

Prashika Reddy

Smart Mobility

Senior Environmental Scientist



Prashika is a Senior Environmental Scientist with 22 years' experience in various environmental fields. She has a successful track record in environmental licencing processes, managing specialists, project budgets, project management, project administration, interfacing with other disciplines and stakeholder and public participation processes.

She is/ has been part of numerous multi-faceted large-scale projects, including the establishment of linear developments (roads and powerlines), industrial plants, electricity generation plants and mixed-use developments.

She has led and contributed to EIAs for large multi-disciplinary projects and accomplished in producing sound scientific reports. Reports include: Scoping Reports; Environmental Impact Assessment Reports; Environmental Management Programmes; Status Quo reports and Environmental Screening Reports.

She is a Professional Natural Scientist (400133/10) with the South African Council for Natural Scientific Professions as well as a Registered EAP with EAPASA (2019/917).

Years of experience

22

Years with Royal HaskoningDHV

17

Professional memberships

SA Council for Natural Scientific Professions, Pr Sci Nat,



EAPASA, Registered EAP, 

Qualifications

1999: Bachelor of Science Honours: Botany, University of KwaZulu-Natal

2006: Bachelor of Science Honours: Geography (with distinction), University of Pretoria

Professional experience

Environmental Impact Assessment (EIA), Waste Management Licence and Integrated Water Use Licence for the Underground Coal Gasification (UCG) Project and associated infrastructure in support of co-firing of gas at the Majuba Power Station, Mpumalanga, South Africa, South Africa

Start Date: 2008 - 2015

Client Name: Eskom Holdings SOC Ltd

Project Value: R 5,900,000

Eskom Holdings (SOC) Ltd appointed Royal HaskoningDHV to undertake the integrated environmental authorisation process, as well as the integrated Water Use Licence, for the UCG pilot project and associated infrastructure in support of co-firing of gas at the Majuba Power Station. UCG is a process whereby coal is converted in situ into combustible gas that can be used for power generation and is one of the new clean coal technologies being developed for implementation by Eskom that intends to diversify Eskom's fuel supply.

Position: Project Manager

Assigned Tasks: Project management, client liaison, compilation of environmental reports, management of the specialist team, authority consultation and co-management of the public participation process

Integrated Environmental Authorisations for the proposed Concentrated Solar Power (CSP) Plants on the farm Sand Draai, Northern Cape Province

Start Date: 2014 - 2016

Client Name: Solafrika Energy (Pty) Ltd

Project Value: R 1,500,000

Solafrika appointed Royal HaskoningDHV to undertake the integrated environmental authorisation and waste licence processes for two CSP plants (central receiver and parabolic trough) with an electricity generation capacity of between 100 - 150MW to be constructed on the farm Sand Draai, Upington.

Position: Environmental Scientist

Assigned Tasks: Compilation of environmental reports

Environmental Impact Assessment for the Pumped Storage Power Generation Facility in the Steelpoort area, Mpumalanga and Limpopo Provinces

> Start Date: 2005 - 2007

> Client Name: Eskom Holdings SOC Ltd

> Project Value: R 1,300,000

As part of the increased electricity supply plan, Eskom will be constructing a Pumped Storage Scheme (PSS) in the Steelpoort area, Limpopo and Mpumalanga Provinces. It is planned that the scheme will have an installed capacity of approximately 1520MW. The proposed scheme consists of the following components: upper and lower reservoirs; underground power house complex and associated waterways that link the reservoirs; and ancillary works.

Position: Project Manager

Assigned Tasks: Completion of the EIA study and reports (EIA Report and EMP), project management, client liaison, management of the specialist team, authority consultation and co-management of the public participation process

Basic Assessment Study for Eight New PV Developments on the Farm Bokpoort, Groblershoop

Start Date: 2019

Client Name: ACWA Power Africa Holdings (Pty) Ltd

Project Value: R 966,123

Due to the changes in the Integrated Resource Plan published in October 2019, ACWA Power intend replacing the authorised CSP site with 8 new PV plants. The updated layout has been revised to incorporate the 8 new PV plants of 200MW each, covering a total of 1200ha (i.e. 150ha for each plant) on Remaining Extent of the Farm Bokpoort 390.

Position: Environmental Scientist and Project Manager

Assigned Tasks: Compilation of environmental reports and project management

Basic Assessment Study for Seven 9.9MW Internal Combustion Engines (ICE) at the Previously Authorised PV Developments on the Farm Bokpoort, Groblershoop

Start Date: 2020

Client Name: ACWA Power Africa Holdings (Pty) Ltd

Project Value: R 153 000

Recently, the Department of Mineral Resources and Energy issued a Request For Proposal (RFP) to which ACWA Power will be participating. A condition in the RFP requires Bidders to not tap into the national grid for power and requires that a reliability test be undertaken at specified generation rate and time. In meeting the RFP requirements, ACWA Power has decided to supplement their already authorised project infrastructure by the addition of ICE infrastructure in the projects to be bid.

Position: Environmental Scientist and Project Manager
Assigned Tasks: Compilation of environmental reports and project management

Environmental Screening Investigation for the Establishment of a Solar Based Electricity Generation System on a Build, Own, Operate and Maintain Basis – 118MW Photovoltaic Plant at the Tubatse Chrome Plant, Steelpoort, Limpopo

Start Date: 2020

Client Name: Samancor Chrome

Project Value: R 146 000

As part of the Transaction Advisory Services, Royal HaskoningDHV's Environmental Management and Planning (EM&P) Knowledge Group have been appointed to conduct a high-level desktop Environmental Screening Investigation (ESI) of twelve (12) sites to investigate the environmental sensitivities, opportunities and constraints associated with the proposed project for the proposed 118MW PV plant at the Tubatse Chrome Plant in the Steelpoort area, Limpopo Province.

Position: Environmental Scientist

Assigned Tasks: Compilation of environmental reports and project management

Environmental Impact Assessment for the Development of a 60MW Photovoltaic (PV) Plant associated with the Tubatse Ferrochrome (TFC) Smelter, Fetakgomo Tubatse Local Municipality

Start Date: 2021

The rising electricity tariffs in South Africa, combined with the increasingly severe load shedding patterns experienced across the country, has a negative impact on the production and revenue of Samancor Chrome business. This has motivated Samancor Chrome to consider renewable energy generation at their smelter plants. Samancor Chrome is therefore proposing the development of a PV plant with 60MW generation capacity over five potential sites adjacent to the TFC Smelter in Steelpoort.

Client Name: Samancor Chrome

Project Value: R 2,140,000

Position: Environmental Technical Leader

Assigned Tasks: Compilation of environmental reports, management of the specialist team and project management

Environmental Impact Assessment for the Development of a 40MW Photovoltaic (PV) Plant associated with the Tubatse Ferrochrome (TFC) Smelter, Fetakgomo Tubatse Local Municipality

Start Date: 2023

In 2021, a Special Purpose Vehicle, TFC Solar (Pty) Ltd proposed the development of a Solar PV facility of up to 100 Megawatt (MW) generation capacity over five (5) sites: 1, 2, 3, 4 and 5. These five sites were subject to an Environmental Impact Assessment (EIA) and an Environmental Authorisation (EA) was granted on 25 April 2022 from the Department of Forestry, Fisheries and the Environment.

A total of 60MW output can be achieved from the previously authorised Sites 2 – 5. Additionally, TFC Solar, propose the development of a 40MW Solar PV facility to be developed on Site 2B, 3B, 3C, 4B and 5B

Client Name: Samancor Chrome

Project Value: R 1,820,000

Position: Environmental Technical Leader

Assigned Tasks: Compilation of environmental reports, management of the specialist team and project management

Fatal Flaw Assessment and Environmental Impact Assessment for the Biesiesvlei Cluster of Wind Energy Facilities

Start Date: 2024

Royal HaskoningDHV has been appointed by South Africa Mainstream Renewable Power Developments (Pty) Ltd to provide a Phase A: Fatal Flaw Assessment and Phase B: Environmental Impact Assessment (EIA) proposal for the development of the Biesiesvlei Wind Energy Facilities (WEFs) and associated Grid Connection Infrastructure (Basic Assessments) and one EIA proposal associated with the 2 x 400kV 1-2km looping in and out of the existing line to a shared 132/400kV main transmission station. The proposed development is in the Free State Province and is called the Biesiesvlei Cluster of Projects.

Client Name:

Project Value: R 6,824,000

Position: Environmental Technical Leader

Assigned Tasks: Client and authority consultation, Compilation of environmental reports, management of the specialist team and project management

Environmental Scoping Study for the uMdloti and uMkhomazi Wastewater Treatment Plants PPP Project

Start Date: 2020 - 2021

Scoping assessment for the proposed 35MI/day uMdloti Wastewater Treatment Works including Sludge handling and beneficiation plant, Biogas facility and Raw sewage transmission network

Client Name: International Finance Corporation

Project Value: R 2,000,000

Position: Environmental Scientist

Assigned Tasks: Assist with the compilation of the Scoping Report, risk identification, compliance with IFC Performance Standards, identify gaps between SA legislation and IFC Performance Standards and compilation of Terms of Reference for the Environmental and Social Impact Assessment

Environmental Screening Investigation as part of the Feasibility Study and Best Fit Specifications of an Inland Coal Terminal/s for Eskom, Mpumalanga

Start Date: 2022

Assessment of three sites for the development of an Inland Coal Terminal

Client Name: Eskom Holdings SOC Ltd

Project Value: R 3,000,000 (total appointment)

Position: Environmental Scientist

Assigned Tasks: Conduct Environmental Screening Investigation, compile ESI Report, provide input into the Feasibility Study

Basic Assessment for the Development of a 400kV Loop-In-Loop-Out (LILO) Powerline to the Existing Eskom Garona Substation and Expansion/Upgrade of the Eskom Garona Substation

Start Date: 2022

Assessment of a loop-in 400kV powerline to the existing Ferrum-Garona Substation and loop-out into the existing Garona-Nieuwehoop 400kV powerline from the Eskom Garona Substation as well as upgrade and expansion of the Garona substation

Client Name: Eskom Holdings SOC Ltd

Project Value: R 205,662

Position: Environmental Assessment Practitioner

Assigned Tasks: Compile BA Report, review specialist assessments, client liaison and project management

Environmental Screening Investigation for the Stormwater Harvesting and Water Re-Use PPP in the eThekweni Metropolitan Area

Start Date: 2020

Environmental screening investigation of various re-use options including indirect effluent re-use, indirect re-use ex-impoundment, indirect re-use from aquifers and direct re-use.

Client Name: eThekweni Municipality

Project Value: R 200,000

Position: Environmental Scientist

Assigned Tasks: Conduct Environmental Screening Investigation, compile ESI Report, provide input into the Feasibility Study

Proposed Glen Valley Wastewater Treatment and Re-use Project, Greater Gaborone Area, Botswana

Start Date: 2019

Scoping study of re-use options: direct potable water re-use and indirect water-use

Client Name: World Bank Group

Project Value: R 500,000

Position: Environmental Scientist

Assigned Tasks: Assist with the compilation of the Scoping Report

Environmental Impact Assessment (EIA), Waste Management Licence and Integrated Water Use Licence for the Matimba Power Station Ash Disposal Facility, South Africa

Start Date: 2012 - 2016

Client Name: Eskom Holdings SOC Ltd

Project Value: R 5,800,000

Approximately 4.8 million tons of ash is produced annually from the Matimba Power Station. This ash is currently being disposed by means of 'dry ashing' ~3km south of the power station. The proposed ash disposal facility will ensure that the power station is able to accommodate the 'ashing' requirements for the remaining life (approximately 44 years) of the Power Station.

Position: Environmental Scientist, Project Manager

Assigned Tasks: Compilation of environmental reports (EIA Report and EMPr), project management, management of the public participation process and specialist team

Charlie 1 Landfill Stormwater Management & Optimisation Project, Sasol Secunda, South Africa

Start Date: 2015 - 2016

Client Name: Sasol Chemical Industries (Pty) Ltd

Project Value: R 735,000

The Sasol Synfuels, Secunda, Charlie 1 landfill site was authorised in 1993 as a Class II Site, in terms of the Environmental Conservation Act (ECA) (Act No. 73 of 1989). Recent legislation changes such as the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the new Waste Classification and Management Regulations, August 2013 (GN 634) have implications for the management of waste disposal sites.

The latest audits conducted at Charlie 1 landfill site highlighted that the water management is not in accordance with the permit requirements. Therefore, the Pollution Control Dam (PCD) of approximately 16000m³ will be constructed to ensure compliance with the existing permit requirements. It will be constructed to ensure effective management of leachate and stormwater.

Position: Project Manager

Assigned Tasks: Project management

Waste Management Licence for the BMW Waste Facility, South Africa

Start Date: 2010

Client Name: BMW SA (Pty) Ltd

Project Value: R 168,797

Position: Project Manager

Assigned Tasks: Project management, client management, authority consultation, report compilations and internal review of work

EIA and Water Use Authorisation for the Removal, Re-Instatement and Re-Positioning of Two High-Voltage Powerlines routed through the Devon Valley Landfill, Stellenbosch

Start Date: 2019

Client Name: Stellenbosch Municipality

Project Value: R 820,000

The Stellenbosch Municipality owns and operates the Stellenbosch Landfill situated off Devon Valley Road. The landfill comprises completed cells (cell 1 and 2) as well as an operating cell (cell 3). Cell 3 is separated from cells 1 and 2 by an area on the landfill property footprint that is used for access roads, entrance area and weighbridge, green waste chipping and rubble crushing and stockpiling

activities. This area is also traversed by two high voltage Eskom powerlines. The presence of these powerlines prevents the Municipality from engineering and operating the area between completed cells 1 and 2 and operating cell 3 as waste disposal cells.

Position: Project Manager and Environmental Scientist

Assigned Tasks: Project management, compilation of environmental reports, management of specialist team

Site Clearance: Planning and Design for Maintenance and/or Upgrade of the Patrol Roads and Fencing on the Borders between RSA, Swaziland and Mozambique

Start Date: 2016

Client Name: Department of Public Works

Project Value: R 2,598,000

Undertake the Basic Assessment study, mining permitting as well as Water Use Licencing application processes associated with the border patrol road and fence.

Position: Project Manager

Assigned Tasks: Project management

Basic Assessment and Water Use Licence for the rehabilitation of the existing P236 gravel road from km6.235 to km14.0 in Ubombo, KwaZulu-Natal

Start Date: 2016

Client Name: KwaZulu-Natal Department of Transport

Project Value: R 546,186

This project is a rehabilitation of a portion of the existing P236 road from km6.235 to km14.0, where the surfaced width will be increased by 2.5m and where there are climbing lanes; the surfaced width will increase by 5.6m. In areas where there will be horizontal curve widening, the width will be increased by 4.5m. Furthermore, existing culverts will be lengthened where required to accommodate the increase in the road bed width. A culvert at a stream crossing, is also planned to be replaced at km6.240 of the P236.

Position: Strategic Environmental Advisor

Assigned Tasks: Quality review of environmental reports and public participation documentation

Basic Assessment and Water Use Licence for the proposed bridge crossing over the uMfolozi River linking the Esiyembeni and Novunula areas within the Mtubatuba Local Municipality, KwaZulu-Natal

Start Date: 2016

Client Name: KwaZulu-Natal Department of Transport
Project Value: R 522,225

The KwaZulu-Natal Department of Transport (KZN DoT) is planning to construct a bridge over the uMfolozi River and associated link road that will serve to link the Esiyembeni and Novunula local communities situated on either side of the uMfolozi River which is currently impassable save for the existing N2 bridge crossing to the east near Mtubatuba.

Position: Strategic Environmental Advisor

Assigned Tasks: Quality review of environmental reports and public participation documentation

Basic Assessment for the construction of two 7km long 88kV Power Lines Grootpan / Brakfontein, South Africa

Start Date: 2015

Client Name: Eskom Holdings SOC Ltd

Project Value: R 458,021

The proposed project involves the construction of two (2) 7km 88kV power lines and dismantling of two (2) 88kV power lines from Grootpan to Brakfontein, south of Ogies in Mpumalanga.

Position: Project Principal

Assigned Tasks: Quality review and overall project management

Proposed Tinley Southbanks Beach Enhancement Project in the KwaDukuza Municipality, KwaZulu-Natal

Start Date: 2016

Client Name: Tongaat Hulett Developments (Pty) Ltd

Project Value: R 925,270

The Tinley Manor Southbanks development provides for the coastal resort, however, it does not provide for what is critical for the success of the resort and that is a safe swimming beach in close proximity to the resort. The lack of a safe swimming beach with public amenities adjacent the development was identified as a major constraint. This EIA is therefore targeted at dealing with this constraint and to enable the provision of a new beach resort that has all the requirements to be able to attract international investment, including specifically a safe, swimming beach.

Position: Strategic Environmental Advisor

Assigned Tasks: Provide strategic advice on project, review of environmental reports

Environmental Impact Assessment for the Cornubia Phase 2 Development, KwaZulu-Natal, South Africa

Start Date: 2012

Client Name: Tongaat Hulett Developments (Pty) Ltd

Project Value: R 989,660

Conduct a full Environmental Impact Assessment (EIA) for the proposed Cornubia Mixed Use Phased development - Phase 2 in Mount Edgecombe, KwaZulu-Natal.

Position: Strategic Environmental Advisor

Assigned Tasks: Provide strategic advice on project, review of environmental reports

Cornubia Retail Park - EIA, South Africa

Start Date: 2012

Client Name: Tongaat Hulett Developments (Pty) Ltd

Project Value: R 370,120

Undertaking the EIA, Public Participation Process (PPP), attending client progress meetings and providing environmental input into the planning of the proposed Phase 2 Retail Development.

Position: Strategic Environmental Advisor

Assigned Tasks: Environmental Scientist. Strategic project advice, quality review and approval of reports

Centurion Metropolitan Core Masterplan: Stormwater and Flooding, South Africa

Start Date: 2012

Client Name: City of Tshwane Metropolitan Municipality

Project Value: R 4,300,000

The City of Tshwane requires a multi-disciplinary project team to assist the Client with the Preparation of a Master Plan of the Centurion Metropolitan Core Study Area.

Position: Environmental Scientist

Assigned Tasks: Environmental Screening Investigation

Environmental Screening for the Commercial 125MW CSP, South Africa

Start Date: 2012

Client Name: Sasol Technology (Pty) Ltd

Project Value: R 185,000

Environmental Screening Investigation for the proposed 125MW commercial concentrated Solar Power Plant located in Upington.

Position: Project Principal

Assigned Tasks: Project Management, financial management, review of Environmental Screening Report

Route Determination and Environmental Screening Investigation of 14 K-routes, South Africa

Start Date: 2016-2019

Client Name: Gauteng Department of Roads and Transport

Project Value: R 5.6 Million

Route determination and ESI for routes K

Position: Environmental Scientist

Assigned Tasks: Environmental Screening Investigation and compilation of the ESI Report

City of Tshwane: Waste Transfer Facilities, South Africa

Start Date: 2014

Client Name: City of Tshwane Metropolitan Municipality

Project Value: R 150,000

Report on environmental and sustainability considerations in Waste to Energy (WtE) Plants when they are co-fired with Municipal Solid Waste. Concept designs and environmental screening of various waste transfer stations. Situational assessment of other closed landfill facilities.

Position: Environmental Scientist

Assigned Tasks: Advise the client on Environmental authorisation requirements

Basic Assessment for the Sasol C3 Expansion Project, Sasol Industrial Complex, South Africa

Start Date: 2013

Client Name: Sasol Polymers

Project Value: R 267,614

The C3 expansion project was initiated to address an estimated 105ktpa additional propylene that will be available in 2014 as a result of various optimisation projects on the upstream Sasol Synfuels facilities. An opportunity was identified for the additional propylene to be utilised as feed for the polypropylene (PP) plants, namely PP1 and PP2. The C3 expansion project involves upgrading and implementing changes to the existing PP1 and PP2 process equipment to accommodate the increase in throughput.

Position: Project Principal

Assigned Tasks: Strategic project advice, quality review and approval of reports

BA for the Sasol Iso-Octanol Long Term Phase II Project, Sasol Industrial Complex, South Africa

Start Date: 2012

Client Name: Sasol Technology (Pty) Ltd

Project Value: R 261,184

The Iso-octanol long-term phase 2 project involves a process whereby aldehydes are converted in the existing Iso-alcohol stream (in Octene Train III) by hydrogenation to its corresponding alcohols to achieve the desired product specification for the Iso-octanol product. A new reactor and a new distillation column with its associated equipment will be installed for this purpose. The expected Iso-octanol production will range between 7 and 9kt/annum. In addition, a storage tank with a capacity of approximately 400m³ and a loading pump will be installed to enable storage and loading of the final Iso-octanol product.

Position: Project Principal

Assigned Tasks: Strategic project advice, quality review and approval of reports

Environmental Impact Assessment for the C3 Stabilisation Project situated on the Sasol Secunda Site, South Africa

Start Date: 2010

Client Name: Sasol Technology (Pty) Ltd

Project Value: R 447,172.00

Position: Project Manager

Assigned Tasks: Project Management, review and compilation of EIA documentation, management of public process, liaison with client and authorities

Environmental Impact Assessment for the proposed Biogas to Power Plant Project at Sasol Synfuels, South Africa

Start Date: 2009

Client Name: Sasol Technology (Pty) Ltd

Project Value: R 167,865

Basic assessment study for the Biogas to power plant project.

Position: Project Manager

Assigned Tasks: Project management, compilation of environmental reports

Environmental Impact Assessment for the proposed Sasol Bioworks upgrade, South Africa

Start Date: 2008

Client Name: Sasol Technology (Pty) Ltd

Project Value: R306,101 Sasol One Bioworks Expansion

Position: Project Manager

Assigned Tasks: Overall Project Management and quality control

EIA or the Amendment of Mining Right for the UCG Pilot Plant, South Africa

Start Date: 2008

Client Name: Sasol Technology (Pty) Ltd

Project Value: R 404,000

Environmental Impact Assessment and Mining Authorisation for the Underground Coal Gasification Pilot Project located in Secunda Mpumalanga Province.

Position: Project Manager

Assigned Tasks: Overall Project Management and quality control

Department of Public Works: ECO Work in Pretoria, South Africa

Start Date: 2010 - 2017

Client Name: Department of Public Works

Project Value: R 2,100,000

Environmental Control Officer and Occupational Health and Safety for the demolition activities associated with the HG de Witt Building in Pretoria.

Position: Project Manager

Assigned Tasks: Project Management and Environmental Control Officer (ECO) work

AEL OEMPr Compilation

Start Date: 2019

Client Name: AEL Africa

Project Value: R 100,000

Position: Senior Environmental Scientist

Assigned Tasks: Compilation of OEMPr for the ISAP and Nitrate Plant

Environmental Status Quo for the Scottsville Local Area Plan

Start Date: 2018

Client Name: Msunduzi Municipality

Project Value: R 2.5 million

Position: Environmental Scientist

Assigned Compilation of Environmental Status Quo chapter

White Mfolozi Bridge & Link Road, South Africa

Start Date: 2016

Client Name: Kwa-Zulu Natal Department of Transport

Project Value: R 0.8 million

Position: EAP

Assigned Tasks: Compilation of the Basic Assessment Report and EMPr in support of the necessary Environmental Authorisations and permits

Sundumbili Wastewater Treatment Works, South Africa

Start Date: 2015

Client Name: Ilembe Municipality

Project Value: R2 000 000

Position: EAP

Assigned Tasks: Environmental Screening and Environmental Impact Assessment

Rustenburg Integrated Rapid Public Transport Network (IRPTN), South Africa

Start Date: 2009

Client Name: Rustenburg Local Municipality

Project Value: R 3,000,000,000

Planning, design and implementation of the Rustenburg Rapid Transport project in Rustenburg.

The final system, which will consist of several phases, will comprise of approximately 900 busses, 600 kilometres (km), 50 bus routes, 35 km segregated bus lanes, 30 stations, 3 depots, 1 transport management centre, and zero compromise in public transport service quality. Royal HaskoningDHV are the project managers in charge of the Design and Construction, as well as the designers for the Intelligent Transportation Systems and Urban Traffic Control.

Position: Environmental Scientist

Assigned Tasks: Environmental Screening Investigation and Ad Hoc environmental advice

Previous Experience

2010 - 2012

SSI Engineers and Environmental Consultants (Pty) Ltd Associate

Prashika Reddy

2008 – 2010

SSI Engineers and Environmental Consultants (Pty) Ltd
formerly known as Bohlweki Environmental (Pty) Ltd
Senior Environmental Consultant

2006 – 2008

Bohlweki Environmental (Pty) Ltd
Junior Environmental Consultant

2001 – 2006

Department of Agriculture
Senior Plant and Quality Control Officer

Curriculum Vitae

Seshni Govender

Smart Mobility

Environmental Consultant



Seshni Govender is an Environmental Consultant working on environmental and water related projects. Seshni has drafted applications for complex integrated licences that include components of National Environmental Management Act and National Water Act. She has been involved in the development of the Environmental Authorisation Processes for the N11-13X Mokpane Ring Road and the development of Photovoltaic Plants in the Northern Cape and Limpopo Provinces, Environment Outlook and Environmental Management Frameworks. This has exposed her to the intricate mechanisms of trying to integrate environmental impacts with mitigations measures that will be in line with the sustainable development principles.

As an Environmental Scientist Seshni contributes to projects through; report writing, data management and analysis, environmental impact analysis, policy review and public engagement/consultation.

Nationality

South African

Years of experience

12

Years with Royal HaskoningDHV

12

Professional Membership

South African Council for Natural Scientific Professions,
Professional Natural Scientist, [REDACTED]

Environmental Assessment Practitioners Association of South Africa, Environmental Assessment, Practitioner [REDACTED]

Qualifications

2010 BSc (Hons) Environmental Science, University of KwaZulu Natal, South Africa

2009 BSc Environmental Science, University of KwaZulu Natal, South Africa

Professional experience

Environmental Impact Assessment and Water Use Authorisation for the Development of a Photovoltaic (PV) Plant up to 100MWp generation capacity associated with the Tubatse Ferrochrome (TFC) Smelter, Fetakgomo Tubatse Local Municipality

- > Samancor Chrome Pty Ltd
- > Sekhukhune District Municipality, Limpopo Province, 2021
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of scoping, Environmental Impact Assessment Reports, Environmental Management Programme, Water Use Licence Application and Facilitation of Public Participation Process
- > Project Duration: March 2021-May 2022
- > Project Value: R 2,140,000

The rising electricity tariffs in South Africa, combined with the increasingly severe load shedding patterns experienced across the country, has a negative impact on the production and revenue of Samancor Chrome business. Climate change is also a concern for Samancor Chrome referring to the emissions of greenhouse gases (GHG) in the use of fossil fuel electricity. This has motivated Samancor Chrome to consider renewable energy generation at their smelter plants. Implementing solar Photovoltaic (PV) generation will result in improved availability of supply and reduced utility bills as well as going 'green' in terms of environmental considerations.

Samancor Chrome proposed the development of a PV plant with up to 100 Megawatt peak (MWp) generation capacity over five potential sites adjacent to the TFC Smelter in Steelpoort, Fetakgomo Tubatse Local Municipality.

Part 2 Amendment of the Environmental Authorisation Issued for the Bokpoort 75MW Concentrating Solar Thermal Power Plant and Associated Infrastructure near Groblershoop, Northern Cape Province

- > ACWA Power Solafrica Bokpoort CSP Power Plant Pty Ltd (RF)
- > ZF Mgcawu District Municipality, Northern Cape Province, 2021
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of Environmental Assessment Report, Operations Environmental

Management Programme. Specialist co-ordination and Facilitation of Public Participation Process

- > Project Duration: March 2021-April 2022
- > Project Value: Unknown

ACWA Power Solafrica Bokpoort CSP Power Plant Pty Ltd (RF) (hereafter referred to as Bokpoort CSP) was issued with an Environmental Authorisation on the 14th of June 2011 for the development of a 75 MW Bokpoort Concentrating Solar Thermal Power Plant (CSP) near Groblershoop, Northern Cape Province.

Therefore, Bokpoort CSP proposed the following amendments described below:

- As part of the project infrastructure, Bokpoort CSP had proposed the use of a temporary labour accommodation camp which was to house workers during the construction phase of the project after which this accommodation was to be demolished. Since the start of the operational phase, Bokpoort CSP has had to reconsider the initial decision to demolish the camp, due to the proximity of the site to the nearest town and are now in the process of making an application to utilise this already built temporary infrastructure to house staff onsite on a 4 week rotational basis (4 weeks on, 2 weeks off) for the duration of the operational phase of the Bokpoort CSP. The project infrastructure components description as included in the EA is therefore proposed to be amended as follows:
 - Permanent Staff Accommodation;
 - Access control building;
 - Visitors centre;
 - Shades ports of approximately 12m high; and
 - Covid-19 isolation room.
- A second amendment is also proposed for the change of the technical description relating to the now authorised 9MW PV augmentation power plant (which was an amendment of the 14 June 2011 EA) from a fixed system to a tracking system.

Basic Assessment for the Proposed Development of Seven 9.9MW Internal Combustion Engines (ICE) on the Remaining Extent of Farm Bokpoort 390, Groblershoop, Northern Cape

- > ACWA Power Energy Africa (Pty) Ltd
- > ZF Mgcawu District Municipality, Northern Cape Province, 2021
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of Basic Assessment Report, Environmental Management Programme, and Facilitation of Public Participation Process
- > Project Duration: March 2020-September 2021
- > Project Value: R 153 000

ACWA Power Energy Africa (Pty) Ltd (hereafter referred to as ACWA Power) is proposing to develop seven individual 9.9MW Internal Combustion Engines (ICE) on the authorised 200MW Pedi, Venda, Zulu, Afrikaans, Ndebele, Swati and Sotho PV Plants on the Remaining Extent (RE) of the Farm Bokpoort 390, located 20km north-west of the town of Groblershoop within the !Kheis Local Municipality in the ZF Mgcawu District Municipality, Northern Cape Province.

ACWA Power participated in the Department of Mineral Resource and Energy's (DMRE) Risk Mitigation Independent Power Producer Procurement (PPP) programme and/ or Captive Power Projects through their authorised PV projects. The country is in dire need of electricity especially during peaking hours but like any other solar technology, PV can only generate electricity when the weather is favourable. In order to address this need, ACWA Power is proposing additional infrastructure (ICE) within their authorised plants to create the flexibility and efficiency within the plants which will enable electricity generation during unfavourable weather conditions.

Basic Assessment for the Proposed Developments of Ten (10) Photovoltaic (PV) plants at the Bokpoort farm near Groblershoop, Northern Cape

- > ACWA Power Energy Africa (Pty) Ltd
- > Northern Cape Province, 2019
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of Basic Assessment Report, Environmental Management Programme, and Facilitation of Public Participation Process
- > Project Duration: 2019-2021
- > Project Value: R 966,123

ACWA Power Energy Africa (Pty) Ltd (hereafter referred to as ACWA Power) is proposing to construct a solar energy facility (Bokpoort II) consisting of ten (10) photovoltaic (PV) plants on the north-eastern portion of the Remaining Extent (RE) of the Farm Bokpoort 390, located 20 km north-west of the town of Groblershoop within the !Kheis Local Municipality in the ZF Mgcawu District Municipality, Northern Cape Province.

On 21 October 2016, a 900 ha, 150 MW Concentrating Solar Power (CSP) plant was authorised by the Department of Environmental Affairs (DEA). Due to the changes in the Integrated Resource Plan (IRP) published in October 2019, ACWA Power intend replacing the authorised CSP site with eight (8) new PV plants. The updated layout has been revised to incorporate the 8 new PV plants of 250 MW each, covering a total of 1200 ha (i.e. 150 ha for each plant).

Two 250 ha 75 MW PV plants including ancillary infrastructure, were also authorised by the DEA on 24 October 2016. As the PV 1 and PV 2 plants are also approved on the Farm Bokpoort 390 RE, the footprints of these approved PV plants will undergo an amendment to accommodate the 8 new PV plants and ancillary infrastructure.

Basic Assessment and Water Use Authorisation for the removal, re-instatement and repositioning of two high voltage powerlines routed through the Stellenbosch Landfill off Devon Valley Road, Stellenbosch, Western Cape

- > Eskom Holdings SOC Ltd and Stellenbosch Municipality
- > Western Cape Province, 2020
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Facilitation and compilation of Water Use Licence Application and Public Participation Processes
- > Project Duration: 2019
- > Project Value: R 820,000

The Stellenbosch Municipality owns and operates the Stellenbosch Landfill situated off Devon Valley Road. The landfill comprises completed cells (cell 1 and 2) as well as an operating cell (cell 3). Cell 3 is separated from cells 1 and 2 by an area on the landfill property footprint that is used for access roads, entrance area and weighbridge, green waste chipping and rubble crushing and stockpiling activities. This area is also transversed by two high

voltage Eskom powerlines. The presence of these powerlines prevents the Municipality from engineering and operating the area between completed cells 1 and 2 and operating cell 3 as waste disposal cells.

Eskom Distribution (Western Cape Operating Unit) therefore proposes removing, re-instating and repositioning the two powerlines (132kV and 66kV) routed through the landfill. The 132kV powerline will be relocated to the northern and eastern boundary of the landfill, whilst the 66kV powerline will be relocated to the eastern and southern boundary. The proposed length of each of the deviated lines are approximately 1km. Two alternative pylon structures are currently being considered i.e. monopoles and lattice towers.

Basic Assessment and Environmental Management Programme for the Borrow Pit 5.5L associated with the N11 Section 13X (N11-13X), Mokopane Ring Road, Mogalakwena Local Municipality, Limpopo province

- > South African National Roads Agency Ltd
- > Limpopo Province, 2019
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of Basic Assessment Report, Environmental Management Programme, and Facilitation of Public Participation Process
- > Project Duration: 2018-2019
- > Project Value: Unknown

The South African National Roads Agency Ltd (SANRAL) has commissioned the Detail Design and the Construction Monitoring of the N11-13X Mokopane Ring Road to divert the heavy vehicle traffic that travels to and from the mines on the western side of Mokopane and to Botswana, from the already congested existing N11 section which passes through the existing villages and the Mahwelereng Township.

The N11-13X Mokopane Ring Road is a "greenfields" project where a new road will be constructed. The class of the new road will be Class 1. The new road to be constructed will typically have an overall width of 13.4 m where the initial carriageway will comprise a minimum 2.5 m outer shoulder, 2 x 3.7 m lanes, and 2.5 m inner shoulder. In general, the road reserve varies between 71 – 75 m but there are wider sections where there is a deep cutting or because of allowance for future interchanges.

A limited amount of gravel (G5 – G7 quality) will be available from cut widenings within the road reserve. The remainder of the gravel required for the proposed road construction (gravel layer works) will need to be sourced from borrow pits.

Basic Assessment for the Proposed Construction of a Bridge over the Rooisloot River, Various Culverts and Borrow Pits Associated With the National Route N11 Section 13x (N11-13x) (Mokopane Ring Road) in the Mokopane Area

- > South African National Roads Agency Ltd
- > Limpopo Province, 2018
- > Position: Environmental and Public Participation Consultant
- > Assigned Tasks: Compilation of Basic Assessment Report, Environmental Management Programme, and Facilitation of Public Participation Process
- > Project Duration: 2018
- > Project Value: Unknown

The South African National Roads Agency Ltd (SANRAL) has commissioned the Detail Design and the Construction Monitoring of the N11-13X Mokopane Ring Road. An Environmental Impact Assessment (EIA) study was previously conducted for the proposed re-routing of the N11-13X road. The Environmental Authorisation and subsequent approval of the Environmental Management Plan (EMP) was obtained in 2009. The subject of this Basic Assessment Process was therefore to address the infilling activities within the watercourses which pertain to the Rooisloot Bridge and the associated culverts. There were 5 Borrow Pits associated with this project that were also subject to Basic Assessment Processes.

Final Consultation Basic Assessment Report for the Dismantling of a portion of the existing double-circuit power line and the construction of two (2) 7 km long 88 kV power lines within a 2 km corridor between the Grootpan and Brakfontein Substations

- > Eskom Holdings SOC Ltd
- > Ogies, Mpumalanga, 2015
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Basic Assessment Report and Environmental Management Programme
- > Project Duration: 2015
- > Project Value: R 458,021

Eskom Holdings (SoC) Pty Ltd (Eskom Distribution – Mpumalanga Operating Unit) proposes to construct two

(2) 7 km 88 kV overhead power lines within a 2 km corridor between Grootpan and Brakfontein Substations near Ogies. The existing power lines are located on GlencoreXstrata mining property. The mine has requested that Eskom relocate the lines as they are within the operational footprint of the mine. The project also involves the dismantling of a portion of the existing 88 kV double-circuit mink power line approximately 5.2 km in length. The new power lines will ensure continuity of supply and access to electricity for the surrounding communities.

Development of Environmental Management Frameworks and Exclusion Standards for: John Taolo Gaetsewe and Watrberg District Municipality

- > The Department of Agriculture, Land Reform and Rural Development
- > John Taolo Gaetsewe District Municipality, Northern Cape Province and Waterberg District Municipality, Limpopo Province, 2022
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Status Quo, Desired State and Environmental Management Framework reports for the John Taolo Gaetsewe and Watrberg District Municipalities
- > Project Duration: March 2020 –Sept 2022
- > Project Value: R 2430 985.00

The Department of Agriculture, Land Reform and Rural Development (DALRRD) has initiated collaboration between itself the Department of Forestry, Fisheries and the Environment (DFFE), and the respective provincial environmental departments and district municipalities of the three (3) InvestSA prioritised district municipalities of which the John Taolo Gaetsewe District Municipality (JTGDM) and the Waterberg District Municipality were chosen. The aim was to have the EMF and their Listed Activities' Exclusion Standards gazetted as instruments to allow certain development activities to be streamlined insofar as environmental authorisations are concerned.

Most of the projects identified in the District Rural Development Plans are of medium to large scale in nature and they generally occur in sensitive environments and the South African environmental legislative context, they trigger the need for Environmental Authorisation under the Environmental Impact Assessment Regulations (EIA), 2014.

The intention was to conduct a pre-assessment of the environmental sensitivities and opportunities within these

three (3) districts to streamline environmental authorisations. The EMFs were developed through an extensive consultative process that includes all relevant sector departments, provinces and municipalities, as well as any other Interested and Affected Party (I&AP). The EMFs will be developed through the extensive use of spatial tools, positive and negative mapping of environmental attributes, sensitivity mapping and detailed assessment of potential impacts including cumulative impacts and risk assessments.

Environmental Compliance for the Longlakes Extension 2, Longlakes, Modderfontein

- > Capital Propfund (Pty) Ltd
- > City of Johannesburg, Gauteng Province, 2021
- > Position: Environmental Control Officer
- > Assigned Tasks: ECO site Audit and compilation of ECO reports
- > Project Duration: July 2021-September 2022
- > Project Value: Unknown

Capital Propfund (Pty) Ltd are constructing Longlakes Extension 2 at a site in Longlakes, Modderfontein, Johannesburg, Gauteng. The site is located on Erf 195, Longlakes Ext 2 Township off Marlboro Drive in Modderfontein .

The wider development entails the development of a Commercial, Residential and Light Industrial Township (excluding Maxwell Drive and K113 and the junctions associated with it) on portions of Longmeadow 296 IR IQ and Longmeadow 297IR IQ, and the construction of the K113 Road between D51 (K58) (Allandale Road) and P91-1K155) and associated infrastructure.

Royal HaskoningDHV (Pty) Ltd was appointed by Capital Propfund for the provision of Environmental Control Officer (ECO) services on a fortnightly basis for a period of twelve (12) months.

Bokamoso Solar Photovoltaic Park, North West, Environmental Control Officer

- > African Clean Energy Developments
- > Leeudoringstad, North West, 2020
- > Position: Environmental Control Officer (Temporary)
- > Assigned Tasks: ECO site Audit
- > Project Duration: May 2020
- > Project Value: Unknown

Royal HaskoningDHV has been appointed by African Clean Energy Developments, thereafter, referred to as

ACED, to undertake the Independent Environmental Control Officer (ECO) duties for the project in order to monitor compliance against the following Environmental Authorisations (EA) for the proposed Solar PV Park near Leeudoringstad, North West.

Waterloo Solar Photovoltaic Park, Environmental Control Officer

- > African Clean Energy Developments
- > Vryburg, North West, 2020
- > Position: Environmental Control Officer (Temporary)
- > Assigned Tasks: ECO site Audit
- > Project Duration: May 2020
- > Project Value: Unknown

Royal HaskoningDHV has been appointed by African Clean Energy Developments, thereafter referred to as ACED, to undertake the Independent Environmental Control Officer (ECO) duties for the project in order to monitor compliance against the following Environmental Authorisations (EA) for the proposed Solar PV Park near Vryburg, North West.

Environmental Control Officer for the Construction of the N11 Section 13 X (N11-13X) Mokopane Ring Road

- > South African National Roads Agency Ltd
- > Mokopane, Limpopo Province, 2019-Present
- > Position: Environmental Control Officer
- > Assigned Tasks: ECO site Audit and compilation of ECO reports
- > Project Duration: 2019-Present
- > Project Value: Unknown

The N11 Section 13X Mokopane Ring Road (hereafter referred to as the N11-13X) is a “greenfields” project consisting of the construction of a new road by the South African National Roads Agency SOC Limited (hereafter referred to as Sanral).

The class of the new road will be Class 1. The new road will typically have an overall width of 13.4m; where the carriageway will comprise a minimum 3.0m outer shoulder, 2 x 3.7m lanes, and 3.0m inner shoulder.

Royal HaskoningDHV have been appointed by Sanral to undertake the Independent Environmental Control Officer (ECO) duties for the project in order to monitor compliance against the Environmental Authorisation (and the amendment thereto), Environmental Management Programme and all other permits and licences associated with the project.

Environmental Screening Investigation: Route Determination for the K178 between the Gauteng Provincial Border and PWV1, Gauteng Province

- > Gauteng Department of Roads and Transport (GDRT)
- > Gauteng, 2018
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of ESI report and Spatial Planning assessment
- > Project Duration: January 2018 – May 2018
- > Project Value: Unknown

The purpose of the Gauteng Strategic Road Network (GSRN) conceived by the Gauteng Department of Roads and Transport (GDRT) some 40 years ago was to plan a robust road system, with the objective of preserving transportation corridors and serving as a guideline for the rapid development and urbanisation of Gauteng.

The route for the K178 is the section between the Gauteng Provincial Border (in the east) and the future PWV1 (in the west) with an approximate length of 18.8km. The alignment generally follows the previous planned GDRT route along the alignment of the existing R54.

In the context of integrated environmental management, screening determines whether a development proposal requires environmental assessment, and if so, what level of assessment is appropriate. Screening is thus a decision-making process that is initiated during the early stages of the development of a project.

The main purpose of the ESI was to determine at this stage of the road design whether there are aspects of the development proposal that have the potential to give rise to significant or unacceptable environmental consequences i.e. fatal flaws.

Route Determination and EIA for K86, K118, K181 K208, K217 and K219,

- > Gauteng Department of Roads and Transport
- > Gauteng Province, 2014
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Spatial Planning assessment
- > Project Duration: 2014
- > Project Value: R 1,251,730.09

Route Determination and Environmental Scan of K-routes in the Gauteng Province.

Water Use Licence Application for the ACWA Power Project DAO PV Solar Plants at Bokpoort Farm, Northern Cape

- > ACWA Power Project DAO (Pty) Ltd
- > ZF Mgcawu District Municipality, Northern Cape Province, 2021
- > Position: Environmental Consultant
- > Assigned Tasks: Facilitation and compilation of Water Use Application process
- > Project Duration: March 2021-February 2022
- > Project Value: R 275,120.25

ACWA Power Project DAO (Pty) Ltd (hereafter referred to as ACWA Power) is proposing to construct a solar energy facility consisting of ten (10) PV plants on the north-eastern portion of the Remaining Extent (RE) of the Farm Bokpoort 390, located 20 km north-west of the town of Groblershoop within the !Kheis Local Municipality in the ZF Mgcawu District Municipality, Northern Cape Province.

7 of the PV plants were bid in response to the Department of Mineral Resources and Energy's (DMRE's) Risk Mitigation Independent Power Producer Procurement Programme and on 19 March 2021, the project (Project No. RM-TA-0025-001), received preferred bidder status and has been subsequently designated as an Energy Strategic Integrated Project (SIP) No. 20, which was gazetted in Government Gazette 43547 on 24 July 2020 and is to be managed within the requirements as set out in the Infrastructure Development Act (Act No. 23 of 2014).

The new plants will have shared water provision infrastructure for personnel that will include abstraction from proposed boreholes, associated pipelines, and a septic tank sewerage system. The key activities being applied for in this Water Use Licence Application are the:

- Three (3) proposed water abstraction boreholes; and
- Four (4) proposed septic tank sewerage system.

Water Use Licence application for the Urania-Bronville Powerline Upgrade Project, Matjhabeng Local Municipality, Free State Province

- > Matjhabeng Local Municipality
- > Free State Province, 2019
- > Position: Environmental Consultant
- > Assigned Tasks: Facilitation and compilation of Water Use Application process
- > Project Duration: 2019
- > Project Value: Unknown

The construction of new overhead powerlines to replace the existing underground powerlines that are no longer operational. The works will comprise the supply, delivery, off-loading, installation, erection, commissioning and handing-over (in a proper working condition) of the following infrastructure.

The construction of a new approximately 3.3 km, 132 kV overhead line between the Welkom Main Intake Substation and Urania Substation.

The construction of a new approximately 5.5 km, 11 kV overhead line between the Industries Substation and Bronville Substation.

Water Use Licence for the Proposed Deviation of the 88kV Firnhem-Platrand Powerline near Standerton, Mpumalanga Province

- > Eskom Holdings SOC Limited
- > Mpumalanga Province, 2018
- > Position: Environmental Consultant
- > Assigned Tasks: Facilitation and compilation of Water Use Application process
- > Project Duration: 2018
- > Project Value: Unknown

Eskom Holdings Limited, a State-Owned Company (SoC) proposed a deviation of a portion of the existing 88kV Firnhem-Platrand Powerline from pole 157 to pole 180 within a servitude of 31m and a length of approximately 2km. The purpose of the deviation is to avoid a wetland in which these poles are currently located which poses a network stability risk as it is located within a wetland area. Firnhem Platrand is an interconnector between Standerton and Volksrust for network stability, the line supplies Transnet Traction Stations, should the line fail, the trains in the nearby tractions will not be able to move.

Water Use Licence Application for the Proposed Site Clearance for Planning and Design of a Border Barrier, Patrol Roads and Fencing between the Republic of South Africa (RSA), Swaziland and Mozambique, Phase 1 (KM 0.0 0 KM 54.0)

- > The National Department of Public Works (DPW) and KwaZulu-Natal Department of Transport (KZN DoT)
- > KwaZulu-Natal Province, 2018
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2018

> Project Value: Unknown

Proposed the upgrade of existing border control infrastructure, and development of new border control infrastructure along a portion of the South Africa (KwaZulu-Natal) - Mozambique Border in the north-eastern part of the KwaZulu-Natal (KZN) Province. This application is termed the 'Phase 1' application and forms a component of a wider project being undertaken by the DPW for the upgrading of border control infrastructure along the South Africa - Swaziland border and the southern part of the South Africa - Mozambique border (the Phase 2 Project). The Phase 1 alignment is comprised of the section of the international border with Mozambique from the high-water mark of the Indian Ocean (KM0.0) to the eastern boundary of the Ndumo Game Reserve (KM54.0).

Water Use Licence Application for the Proposed Site Clearance for Planning and Design of a Border Barrier, Patrol Roads and Fencing between the Republic of South Africa (RSA), Swaziland and Mozambique, Phase 2 (KM 54.0 0 KM 524.0)

- > The National Department of Public Works (DPW)
- > KwaZulu-Natal and Mpumalanga Provinces, 2018
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2018
- > Project Value: R 2,598,000

The National Department of Public Works (DPW) as the applicant, (in conjunction with the KwaZulu-Natal Department of Transport (KZN DoT) as an implementing agent) is proposing the upgrade of existing border control infrastructure, and development of new border control infrastructure along a portion of the South Africa–Mozambique-Swaziland Border in KwaZulu-Natal and Mpumalanga. This application was termed the 'Phase 2' application and forms a component of a wider project being undertaken by the DPW for the upgrading of border control infrastructure along the South Africa - Swaziland border and the southern part of the South Africa - Mozambique border. The Phase 1 alignment is comprised of the section of the international border with Mozambique from the high-water mark of the Indian Ocean (KM0.0) to the eastern boundary of the Ndumo Game Reserve (KM54.0), whilst this Application (Phase 2) is from KM54.0 to KM524.0.

The project is being undertaken by the DPW in conjunction with the Department of Agriculture Forestry

and Fisheries (DAFF) and the South African National Defence Force (SANDF), and Ezemvelo KZN Wildlife (EKZNW) and the iSimangaliso Wetland Park Authority (IWPA) as partner organs of state. The KZN DoT is an implementing agent for one of the infrastructure components (the border barrier structure).

The aim of the project is to stop the illegal trafficking of stolen vehicles and contraband across this section of the international border, as well as to prevent the illegal movement of people as well as livestock that could transmit disease. South Africa has approximately 4 800 km of land border and 2 800 km of coastline border which is required to be secured. South Africa is greatly affected and financial impacted by illegal imports, smuggling and other similar illegal activities which transpire over borders. In order to effectively respond to the range of security and control challenges that are being experienced by responsible organs of the State, it is important to assess the situation and to be able to incorporate a viable solution.

Integrated Water Use Licence Application for the Rehabilitation of the Existing P236 and Culvert from km 6.235 to km 14.0

- > KwaZulu-Natal Department of Transport
- > Ubombo,, KwaZulu-Natal, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2018
- > Project Value: R 546,186

The P236 is located north of Mkhuze and starts at km 0.0 at the intersection with P2-9 and ends at km 32.0, intersecting P449. The application, however, was only for the rehabilitation of km 6.235 to km 14.0 of the P236 as well as the replacement of a culvert at Km 6.240.

Water Use Licence Application for the Proposed Upgrade of Dango Bridge (B1372) and Bedlane Bridge (B1336) situated along P393 (R34) Road Between Nkwalini Pass (Km0,0) and Empangeni (Km24,0)

- > KwaZulu-Natal Department of Transport
- > Empangeni, KwaZulu-Natal, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2017
- > Project Value: Unknown

The KwaZulu-Natal Department of Transport (DoT) proposed to improve the Provincial road P393 (R34) from P47-4 at Nkwalini Pass (km 0.0) to P230 at Empangeni (km 24.0) within the King Cetshwayo District Municipality in KwaZulu-Natal Province. The project starts at the intersection of P47-4 (R66) with P393 (R34) at Nkwalini Pass (km 0.0) and ends at P230 (km 24.0) towards Empangeni. The Bedlane river bridge (B1334) is situated at km 2.6 from Nkwalini Pass and the Dango river bridge (B1372) is situated at km 3.9 from Nkwalini Pass. The existing P393 road is 8.8m wide and the proposed road geometry for the rehabilitation is 10.0m wide including shoulders.

Water Use Licence Application for the Proposed Culvert Rehabilitation along Provincial Road P230 from Km37.0 to Km47.0

- > KwaZulu-Natal Department of Transport
- > Umhlathuze Local Municipality, KwaZulu-Natal, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2017
- > Project Value: Unknown

This project formed part of the Empangeni Road Rehabilitation Programme and covers the rehabilitation of the provincial road P230 between km 37,0 and km 47,0 within the uMhlathuze Local Municipality which forms part of the King Cetshwayo District Municipality (DC28), KwaZulu-Natal. Provincial Road P230 from the intersection with P393 at km 37,0 to km 47,0 near Empangeni is defined as an undivided two lane road, and has been classified as a Class R1 Rural Arterial Road (in terms of the TRH26). The P230 forms part of the R34 long distance heavy haul freight route, which connects the harbour of Richards Bay and the surrounding industrial and commercial areas, with inland provinces.

Integrated Water Use Licence Application for the Canelands Extension Development, KwaZulu-Natal

- > Tongaat Hulett Developments
- > Kwadukuza Municipality, KwaZulu-Natal, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2017
- > Project Value: Unknown

Tongaat Hulett Development wishes to develop the site for industrial purposes. The site lies adjacent to the existing Canelands Industrial estate. Potential land uses may include general / industrial, logistics, warehousing and

distribution. These land uses will complement those of the existing Canelands Industrial Estate and will ensure that this land parcel reads as an extension to the existing development. It is proposed, due to the proximity of the floodplain and numerous other constraints located on-site, that a single platform covering an area of approximately 1.67 hectares (1.67 ha) is created. Both a servicing and traffic report has been completed, which details how this development will be accommodated by the existing bulk infrastructure within the region.

Environmental Impact Assessment and Integrated Water Use Licence Application for the Tinley Manor Southbanks Coastal Development, KwaZulu-Natal

- > Tongaat Hulett Developments
- > Kwadukuza Municipality, KwaZulu-Natal, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2017
- > Project Value: Unknown

Tongaat Hulett Developments proposes to develop the Tinley Manor Southbanks Coastal Development into a mixed-use coastal development including a large residential component. Tinley Manor Southbanks Coastal Development is an approximately 485 ha site, located between the coastal towns of Tinley Manor and Sheffield Beach within the KwaDukuza Municipality, KwaZulu-Natal.

The proposed Tinley Manor Southbanks Coastal Development is set to be the first phase of the development of Tongaat Hulett Developments' land holdings in Tinley Manor, which is situated to the south and north of the Umhlali River.

Cornubia Human Settlement - Integrated Water Use Licence Application, South Africa

- > Tongaat Hulett Developments (Pty) Ltd
- > Cornubia, KwaZulu-Natal, 2013
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Water Use Application
- > Project Duration: 2013-2015
- > Project Value: Unknown

Water Use Licence Application for the Cornubia Industrial and Business Estate, Phase 1-Retail Park, Cornubia Phase and Cornubia Bridge

Gauteng Province Environment Outlook Report

- > Gauteng Department of Agriculture and Rural Development
- > Gauteng, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Chapter Author
- > Project Duration: Aug 2016 –January 2018
- > Project Value: 1,063,524.00

State of the Environment Report (SoER) is a report card on the condition or quality of the environment. It provides information on how we affect the environment, how the environment affects us, and how this condition has changed over time. Environmental conditions are analysed through the use of environmental indicators which are proxies of environmental status, and which can be monitored over time and space. Reporting on the State of Environment (SoE) is therefore an important tool in identifying, assessing and setting priorities for environmental issues, as well as in determining whether environmental policies and actions are effective. Furthermore, the 'environment outlook' component attempts to describe or predict how environmental challenges will evolve in the near future, and what needs to be done to achieve a more sustainable state of living for all people in the province. The ultimate value of environmental outlook reporting lies in the degree to which that assessment can be used for adaptive environmental management to address anticipated future environmental conditions and pressures.

North West Environmental Outlook/State of the Environment Trend Analysis

- > North West Department of Rural, Environment and Agricultural Development
- > Mahikeng, 2017
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of Trend Analysis
- > Project Duration: 2017
- > Project Value: R 218,880

The *Environmental Trend Analysis Report* focused on the publications of the North West Province State of Environment and Environment Outlook Reports dated 1995, 2002, 2008 and 2013, in an effort to expand this trend reporting to fully cover the period 1995 to 2013. This exercise followed on from the 2013 Environment Outlook Report which reported on environmental trends and made related recommendations to guide the province towards a more sustainable future. As such, the following objectives were achieved:

- > The indicators for each chapter were tracked through the reporting period
- > Data Gaps Identified
- > the value of the indicator set determined

NW Environment Outlook, South Africa

- > North West Department of Rural, Environment and Agricultural Development
- > Mahikeng, 2018
- > Position: Environmental Consultant
- > Assigned Tasks: Chapter Author
- > Project Duration: Aug 2017–March 2020
- > Project Value: R1993799.00

Compilation of the water chapter as part of the publication of the North West Environment Outlook

Dube Tradeport State of the Environment Report

- > Dube Tradeport Corporation
- > KwaZulu-Natal, 2014
- > Position: Environmental Consultant
- > Assigned Tasks: Chapter Author
- > Project Duration: 2014
- > Project Value: R171,000.00

Compilation of the Dube Tradeport State of the Environment Report 2013/2014

State of Environment Report (SOER) for City of Johannesburg, South Africa

- > >South African Cities Network
- > City of Joburg, 2014
- > Position: Environmental Consultant
- > Assigned Tasks: Chapter Author
- > Project Duration: 2014
- > Project Value: Unknown

Compilation of the State of the Environment Report for the City of Johannesburg 2014

NW Environment Outlook, South Africa

- > North West Department of Economic Development, Environment, Conservation and Tourism
- > Mahikeng, 2013
- > Position: Environmental Consultant
- > Project Duration: 2013
- > Project Value: R1,303,344.00

Compilation and Publication of the North West Provincial

Update of the Dube Tradeport State of the Environment Report

- > Dube Tradeport Corporation

- > KwaZulu-Natal, 2015
 - > Position: Environmental Consultant
 - > Assigned Tasks: Chapter Author
 - > Project Duration: 2015
 - > Project Value: R 403424.34
- Compilation of the Dube Tradeport State of the Environment Report 2016/2017

Integrated Open Space Plan – Greater Khayalami and Ruimsig-Honeydew Sub-Regions, Johannesburg, South Africa

- > Client: City of Johannesburg, 2016
 - > Position: Environmental Consultant
 - > Assigned Tasks: Compilation of status quo, literature review and open space document
 - > Project Duration: 2016
 - > Project Value: 1,286,950 .00
- Development of two integrated open space plans for the Greater Khayalami and Ruimsig-Honeydew Sub-regions which aim to ensure that ecological goods and services are maintained and enhanced so as to contribute to spatial planning in the City of Johannesburg, and both economic and social development.

Integrated Open Space Plan - Linbro Park & Greater Bassonia, Johannesburg, South Africa

- > City of Johannesburg, 2015
 - > Position: Environmental Consultant
 - > Assigned Tasks: Compilation of status quo, literature review and open space document
 - > Project Duration: 2015
 - > Project Value: R1,314,695.00
- Development of two integrated open space plans for the Linbro Park and Greater Bassonia which aim to ensure that ecological goods and services are maintained and enhanced so as to contribute to spatial planning in the City of Johannesburg, and both economic and social development.

Integrated Open Space for the Greater Khayalami and Ruimsig/Honeydew Sub Regions

- > City of Joburg, 2017
- > Position: Environmental Consultant
- > Position: Environmental Consultant
- > Assigned Tasks: Compilation of status quo, literature review and open space document
- > Project Duration: 2017
- > Project Value: Unknown

Development of two integrated open space plans for the Greater Khayalami and Ruimsig-Honeydew Sub-regions which aim to ensure that ecological goods and services are maintained and enhanced so as to contribute to spatial planning in the City of Johannesburg, and both economic and social development.

Review and Update of the City of Windhoek's Environmental Policy

- > Consulting Services Africa (CSA)
 - > Windhoek, Namibia, 2014
 - > Position: Environmental Consultant
 - > Assigned Tasks: Literature Review
 - > Project Duration: 2014
 - > Project Value: R190,377.50
- Review the existing City of Windhoek Environmental Management Policy, 2004 and revise and improve the existing policy so that it may be approved, launched, and implemented by the Windhoek City Council.

Green existing by-laws and develop a set of new environmental by-laws or amend the existing by-laws,

- > Ekurhuleni Metropolitan Municipality
 - > Ekurhuleni, 2014
 - > Position: Environmental Consultant
 - > Assigned Tasks: Literature Review
 - > Project Duration: 2014
 - > Project Value: R1,511,140.00
- Review the existing Ekurhuleni by-laws by introducing environmental considerations and develop a set of new environmental by-laws if required.

Application for Postponement of Compliance Timeframes to achieve New Plant Standards at ArcelorMittal South Africa, Vanderbijlpark Works, Emfuleni Local Municipality

- > ArcelorMittal South Africa
- > Gauteng Province, 2019
- > Position: Environmental Consultant
- > Assigned Tasks: Project Manager and Facilitation of public participation process
- > Project Duration: 2019
- > Project Value: R87,100.00

In response to Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No.39 of 2004) (as amended in 2018), ArcelorMittal applied for a postponement of the compliance timeframes to achieve

the new plant minimum emission standards, as well as alternative emission standards for certain plants at the Vanderbijlpark Works (AMSAVW), Emfuleni Local Municipality, Gauteng.

Application for an Alternative Plant Standard and Suspension Application for activities associated with the ArcelorMittal Pretoria Works, City of Tshwane, Gauteng.

- > ArcelorMittal South Africa
- > Gauteng Province, 2019
- > Position: Environmental Consultant
- > Assigned Tasks: Project Manager and Facilitation of public participation process
- > Project Duration: 2019
- > Project Value: R60,996.00

In response to Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (as amended in 2018), ArcelorMittal intends to apply for an alternative plant standard and submit a suspension application of the compliance timeframes to achieve the new plant minimum emission standards for the Pretoria Works, City of Tshwane, Gauteng.

Project related



Appendix B: Maps

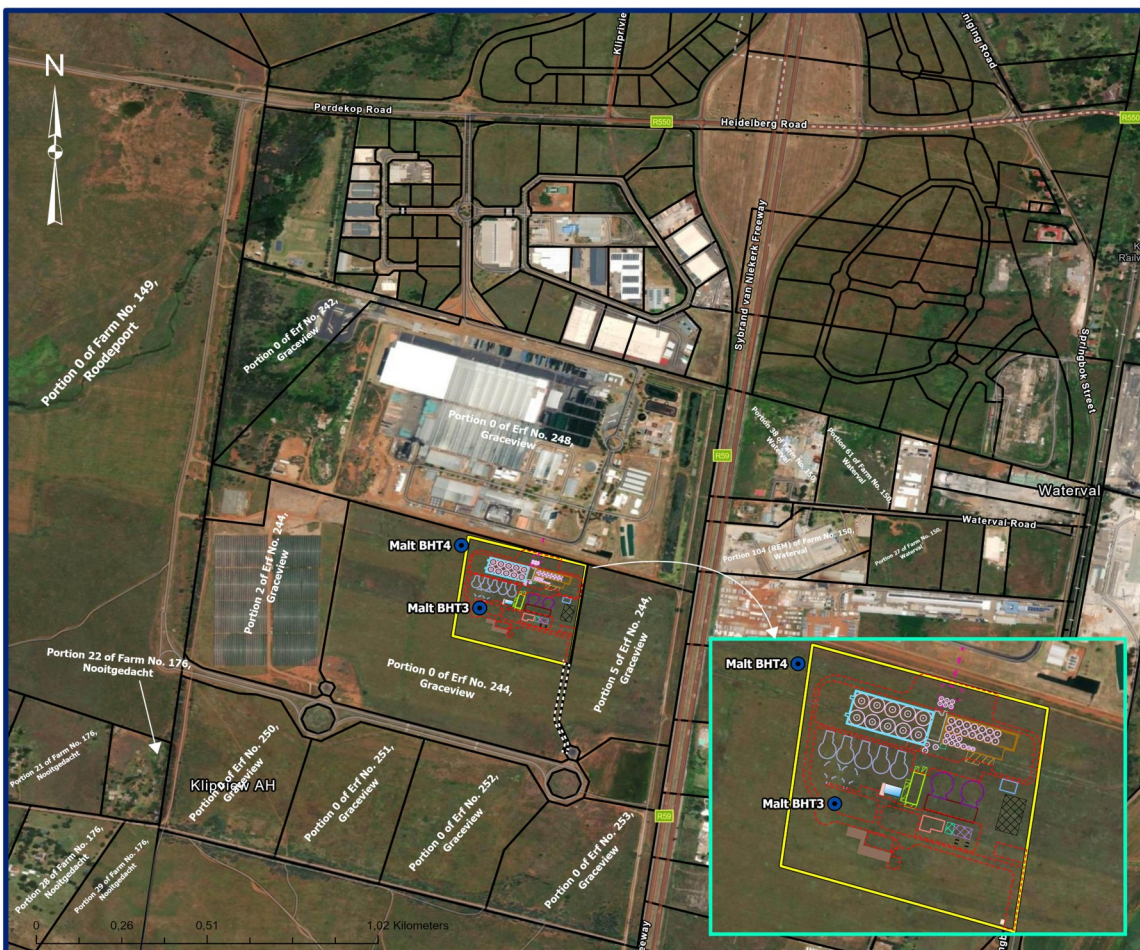
Locality Map

Legend

- Borehole
- Silo's
- Main Access Road
- Cadastral
- Malt Conveyor System
- Internal Road Network
- Site Boundary
- Working and Offloading area
- Malt Storage
- Barley Storage
- Workshop
- Seed Building
- Dryer
- Motor Control Centre
- Germination Vessel
- Future Vessel
- Steeping Building
- Steeping Building Ancillary Infrastructure
- Process Water Tank
- Fire Tank
- Kiln
- Heat Pump and Electrical Room
- Combine Heat and Power System
- Boilers
- Principal Power supply
- Heating and Energy Building
- Wastewater Treatment Plant
- Guardhouse
- Admin and Lab Building

Source:
ESRI
Royal HaskoingDHV
Soufflet Malt South Africa
Surveyor General

Scale: 1:10 000



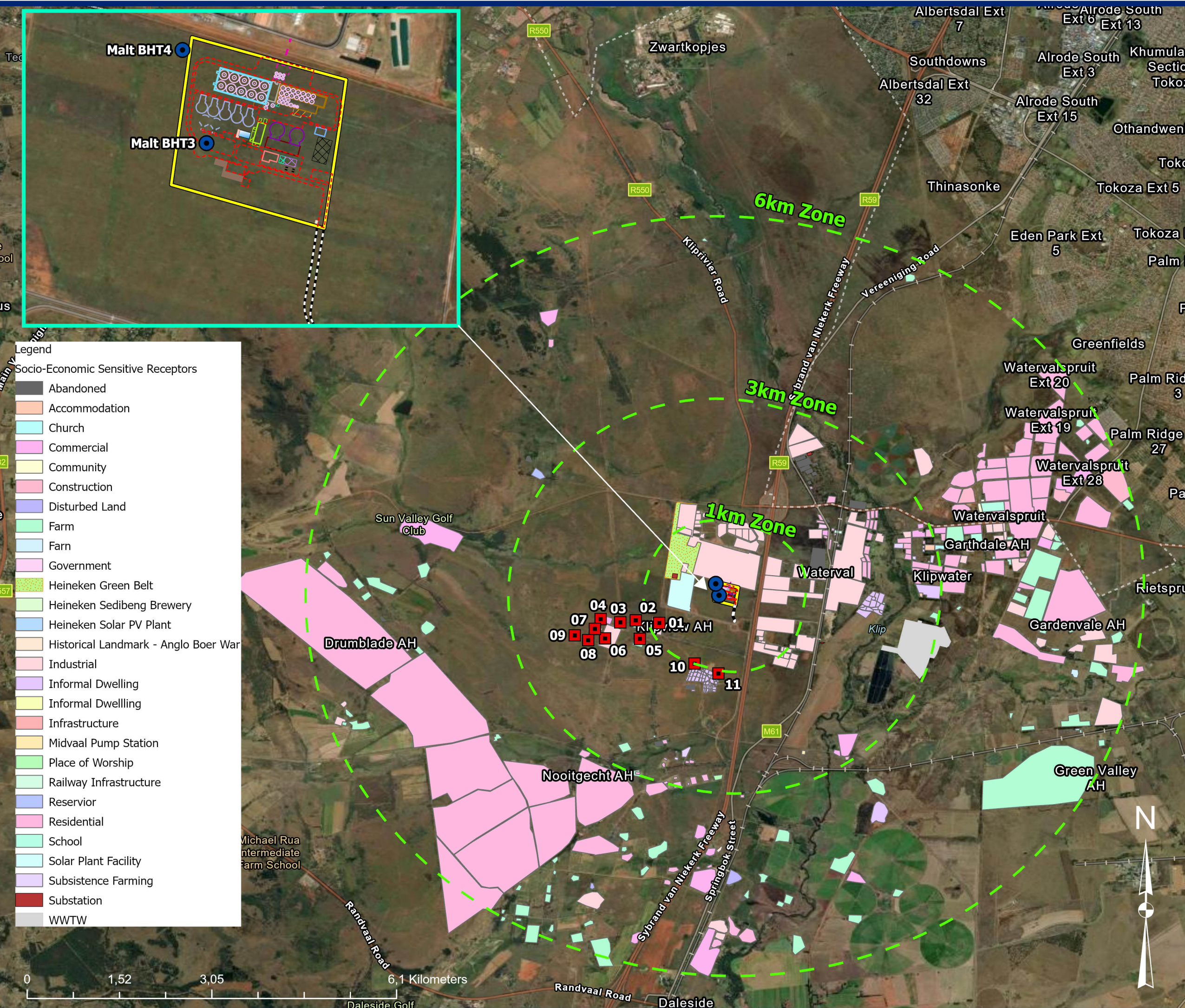
Proposed Development of a new Malting Plant in Sedibeng District Municipality, Gauteng Province

Sensitivity Map

Legend

- Borehole
- Noise Sensitivity Receptors
- Silo's
- Main Access Road
- Malt Conveyor System
- Internal Road Network
- Site Boundary
- Working and Offloading area
- Malt Storage
- Barley Storage
- Workshop
- Seed Building
- Dryer
- Motor Control Centre
- Germination Vessel
- Future Vessel
- Steeping Building
- Steeping Building Ancillary Infrastructure
- Process Water Tank
- Fire Tank
- Kiln
- Heat Pump and Electrical Room
- Combine Heat and Power System
- Boilers
- Principal Power supply
- Heating and Energy Building
- Wastewater Treatment Plant
- Guardhouse
- Admin and Lab Building
- Visibility Zones

- Legend**
- Socio-Economic Sensitive Receptors**
- Abandoned
 - Accommodation
 - Church
 - Commercial
 - Community
 - Construction
 - Disturbed Land
 - Farm
 - Farn
 - Government
 - Heineken Green Belt
 - Heineken Sedibeng Brewery
 - Heineken Solar PV Plant
 - Historical Landmark - Anglo Boer War
 - Industrial
 - Informal Dwelling
 - Informal Dwelling
 - Infrastructure
 - Midvaal Pump Station
 - Place of Worship
 - Railway Infrastructure
 - Reservoir
 - Residential
 - School
 - Solar Plant Facility
 - Subsistence Farming
 - Substation
 - WWTW



Source:
 ESRI
 Eco-Thunder
 Enviro-Acoustic Research
 Royal HaskoningDHV
 Soufflet Malt South Africa

Scale: 1:58 000



Project related



Appendix C: Stakeholder Engagement Plan

REPORT

Stakeholder Management Plan - Development of a New Malt Plant, Sedibeng District Municipality, Gauteng

SEP - New Malt Plant

Client: Soufflet Malt South Africa

Reference: MD6264-RHD-XX-ZZ-RP-Z-0001

Status: Final/01

Date: 6 August 2024

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Document title: Stakeholder Management Plan - Development of a New Malt Plant, Sedibeng District Municipality, Gauteng

Subtitle: SEP - New Malt Plant

Reference: MD6264-RHD-XX-ZZ-RP-Z-0001

Your reference

Status: Final/01

Date: 6 August 2024

Project name: Soufflet Malt New Malt Plant

Project number: MD6264

Author(s): Prashika Reddy

Drafted by: Prashika Reddy

Checked by: Seshni Govender

Date: 30 July 2024

Approved by: Sibongile Gumbi

Date: 06 August 2024

Classification

Project related

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Table of Contents

1	Introduction	1
1.1	Project Description	1
1.2	Potential Environmental and Social Issues	3
2	Regulatory Framework	4
2.1	South African Legislation	4
2.2	International Standards, Policies and Guidelines	4
3	Summary of Previous Stakeholder Engagement Activities	4
4	Project Stakeholders	4
4.1	Stakeholder Identification	4
4.2	Stakeholder Analysis and Mapping	5
5	Stakeholder Engagement Programme	7
5.1	Information Disclosure	7
5.2	Consultation with Disadvantaged or Vulnerable Groups	9
6	Engagement Schedule	9
7	Resources and Responsibilities	10
8	Grievance Mechanism	10

Table of Tables

Table 4-1: Stakeholder mapping	6
Table 5-1: Information disclosure for the Project	7
Table 6-1: Planned stakeholder engagement schedule	10
Table 8-1: Description of the various steps in the Project's grievance mechanism	11

Table of Figures

Figure 1-2: Malting process	3
Figure 4-1: The Project's stakeholder mapping	5
Figure 8-1: Process steps of the Project's grievance mechanism	11

Appendices

Annexure A: Database

Annexure B: Site Notices

Annexure C: BID

Annexure D: Advert

Annexure E: Comments and Responses Report

Annexure F: Proof of Response to Comments

Acronyms

Acronym	Acronym description
AOI	Area of Influence
BID	Background information document
CA	Competent Authority
CLO	Community Liaison Officer
CRR	Comments and Responses Report
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ESIA	Environmental and Social Impact Assessment
GIIP	Good International Industry Practice
IFC	International Finance Corporation
KT	Kilo tonne
NEMA	National Environmental Management Act
PS	Performance Standard
SEP	Stakeholder Engagement Plan

Glossary

Glossary Term

Glossary Text

Stakeholder

Stakeholders are persons or groups who are directly or indirectly affected by a Project, as well as those who may have interests in a Project and/or the ability to influence its outcome, either positively or negatively.

Stakeholder Engagement

Stakeholder engagement is the basis for building strong, constructive, and responsive relationships that are essential for the successful management of a Project's environmental and social impacts.

Stakeholder Management Plan

A Stakeholder Engagement Plan is a plan that is scaled to the project risks and impacts and development stage and is tailored to the characteristics and interests of the Affected Communities.

Grievance Mechanism

A grievance mechanism should be scaled to the risks and adverse impacts of the Project and have Affected Communities as its primary user. It should seek to resolve concerns promptly, using an understandable and transparent consultative process that is culturally appropriate and readily accessible, and at no cost and without retribution to the party that originated the issue or concern.

1 Introduction

The Soufflet Group has developed expertise in process management to achieve high quality malt and optimize energy consumption. Soufflet Malt South Africa (Pty) Ltd (“Soufflet Malt”), a subsidiary of the Soufflet Group, has obtained funding from the International Finance Corporation (IFC) for the establishment of a malt plant which will be located in the Sedibeng District, Gauteng (“The Project”). The Project, which is expected to be operational for 50 years, will have an annual capacity of 100kT/year in Phase 1 and 135kT/year in Phase 2 for the local market.

The Project is envisaged as an import substitution and enhancement of barley production in the agricultural sector in South Africa. The beer sector in South Africa contributes to roughly 1 in every 66 jobs in the country, with the supply chain comprising farmers, packaging manufacturers, brewers, distributors, and retailers.

Soufflet Malt South Africa has appointed Royal HaskoningDHV to provide independent Environmental Assessment Practitioner (EAP) services for the proposed Project. As the Project must comply with national legislation and the IFC Performance Standards (PS) and Good International Industry Practice (GIIP), an Environmental and Social Impact Assessment (ESIA) is being undertaken and the stakeholder engagement forms the basis for building strong, constructive and responsive that are essential for the successful management of a project's environmental and social impacts.

This Stakeholder Engagement Plan (SEP) sets the framework for Soufflet Malt and the EAP to consult with stakeholders directly affected by a project, as well as those who may have interests in the Project and/or the ability to influence its outcome, either positively or negatively.

1.1 Project Description

The Project (26° 25' 48.60" S; 28° 04' 12.90" E) is located to the south of the Heineken Sedibeng Brewery within a greenfield area in the Sedibeng District Municipality (**Error! Reference source not found.**). The R59 road runs east of the Project, with the Heineken Solar PV Plant located to the west. The Project site is owned by Heineken South Africa (Pty) Ltd and zoned as “Industrial 1 with an annexure for an Agricultural Industry.”



Figure 1 1: Locality map

The malting production process consists of the following stages - Figure 1-1:

- Barley intake and storage;
- Steeping: initiation of growth through forced grain hydration;
- Germination: controlled growth of barley to facilitate endosperm modification;
- Kilning: the termination of grain growth to fix extract potential and malt specifications through grain dehydration; and
- Distribution – the kilned malt is dispatched to the Heineken Brewery via a conveyor system.

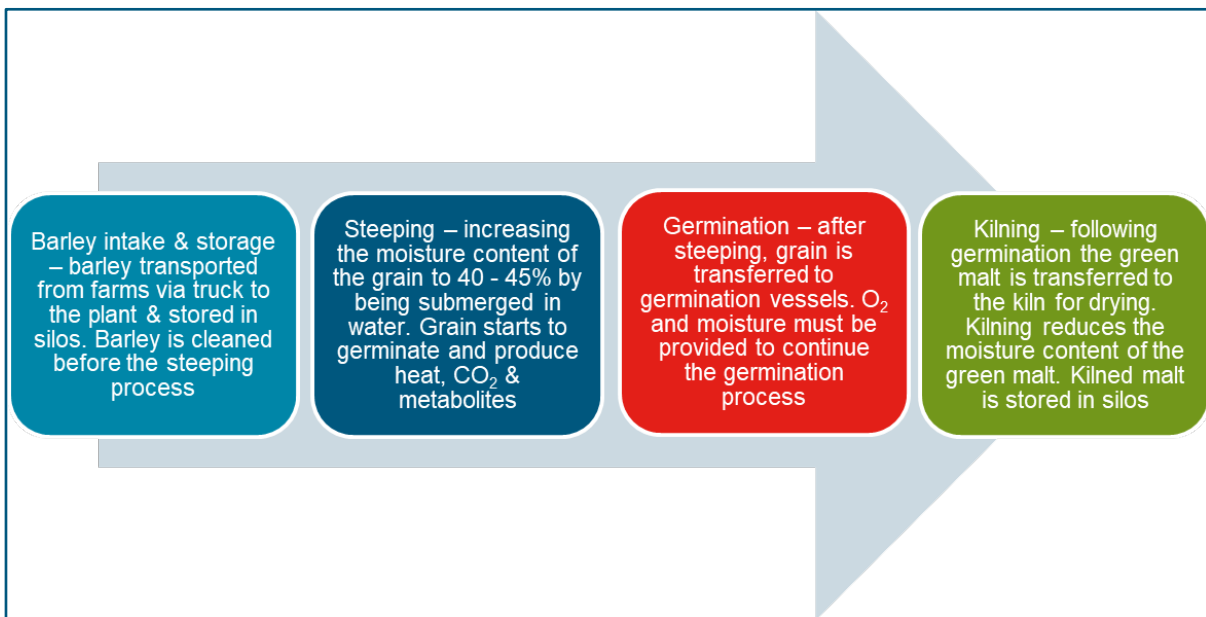


Figure 1-1: Malting process

The Project components are made up of working buildings, malting buildings (storage silos, steeping building, germination vessels, kilns, malt storage silos) and conveyor system to the Heineken Brewery. In addition, the Project will consist of an energy system housed in the Heat and Energy building, water storage tanks, wastewater (effluent) tank, ammonia storage and ancillary infrastructure consisting of admin building, construction lay-down area, internal conveyor system between the malting buildings, bagging and chemical storage, fire pump room, gatehouse, weighbridge, truck staging area, waste pick-up area, internal access roads and staff parking.

1.2 Potential Environmental and Social Issues

The key potential environmental and social issues which are likely to affect stakeholders, include:

- The Project is anticipated to bring direct and indirect benefits to the socio-economic environment. The likely benefits include job creation, business opportunity, revenue generation, provision of raw materials, and knowledge and technology transfer.
- Water and energy consumption required for the malting process.
- Wastewater and emissions generation during operations.
- The Project is sited on dolomite land is susceptible to sinkhole and subsidence formation, primarily through groundwater level drawdown and ingress of water.
- Noise, dust and odour impacts.

2 Regulatory Framework

The legal, regulatory and lender requirements pertaining to stakeholder engagement applicable to the Project are included in the subsequent sections.

2.1 South African Legislation

The National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) defines public participation (in relation to the assessment of the environmental impact of any application for an environmental authorisation) as a process by which potential interested and affected parties are given opportunity to comment on, or raise issues relevant to, the application. Effective public participation also facilitates informed decision-making by the Competent Authority (CA) and may result in better decisions as the issues and concerns of all parties are considered.

Soufflet Malt must comply with the requirements stipulated in the following key national legislation:

- National Water Act (Act No. 36 of 1998) (as amended);
- National Environmental Management: Air Quality Act (Act No 39 of 2004);
- National Environmental Management: Waste Act (Act No. 59 of 2008) as amended;
- National Heritage Resources Act (Act No. 25 of 1999); and
- Occupational Health and Safety Act (Act No. 85 of 1993).

2.2 International Standards, Policies and Guidelines

The Project must also comply with IFC PS 1 (Assessment and Management of Environmental and Social Risks), whereby a SEP must be compiled that is scaled to the project risks and impacts and provides a framework for stakeholder engagement throughout the project construction, operation and decommissioning phases (where applicable)¹. This SEP describes the arrangement for conducting this engagement in a transparent, consistent, meaningful, inclusive and culturally appropriate manner. In addition, the SEP includes a grievance mechanism which provides a process for managing complaints and grievances received from stakeholders.

3 Summary of Previous Stakeholder Engagement Activities

No previous stakeholder engagement activities have been undertaken in support of the ESIA for the Project.

4 Project Stakeholders

4.1 Stakeholder Identification

The objective of the stakeholder analysis is to categorise the identified stakeholders and determine which ones:

- Are directly and/or indirectly affected by the Project (or Project's operations);
- Have interests in the Project that determine them as stakeholders; and
- Have the potential to influence the Project's outcomes or Project's operations.

The stakeholders identified for the Project included:

¹ International Finance Corporation. 2021. *Guidance Note 1: Assessment and Management of Environmental and Social Risks and Impacts*.

- National and Provincial Government;
- Organs of State;
- Local government: Midvaal Local- and Sedibeng District Municipality;
- Landowner and adjacent landowners;
- Project affected people i.e. nearby community;
- Neighbouring industries and businesses;
- Parties responding to adverts, background information document and site notices.

All stakeholder information including contact details have been recorded within a database (**Annexure A**) and stakeholders will be informed of the Project, review of reports, meetings and environmental authorisation issued by the Competent Authority and the appeal process. This database will be updated on an on-going basis throughout the Project.

4.2 Stakeholder Analysis and Mapping

Stakeholder analysis is used to characterize stakeholder group interests, how they will be affected by the proposed action and to what degree, and how those groups may influence the Project. The Project's stakeholder mapping (Figure 4-1) provides distinct groups in the Project's area of influence (AOI) and prioritizes these stakeholders for consultation.

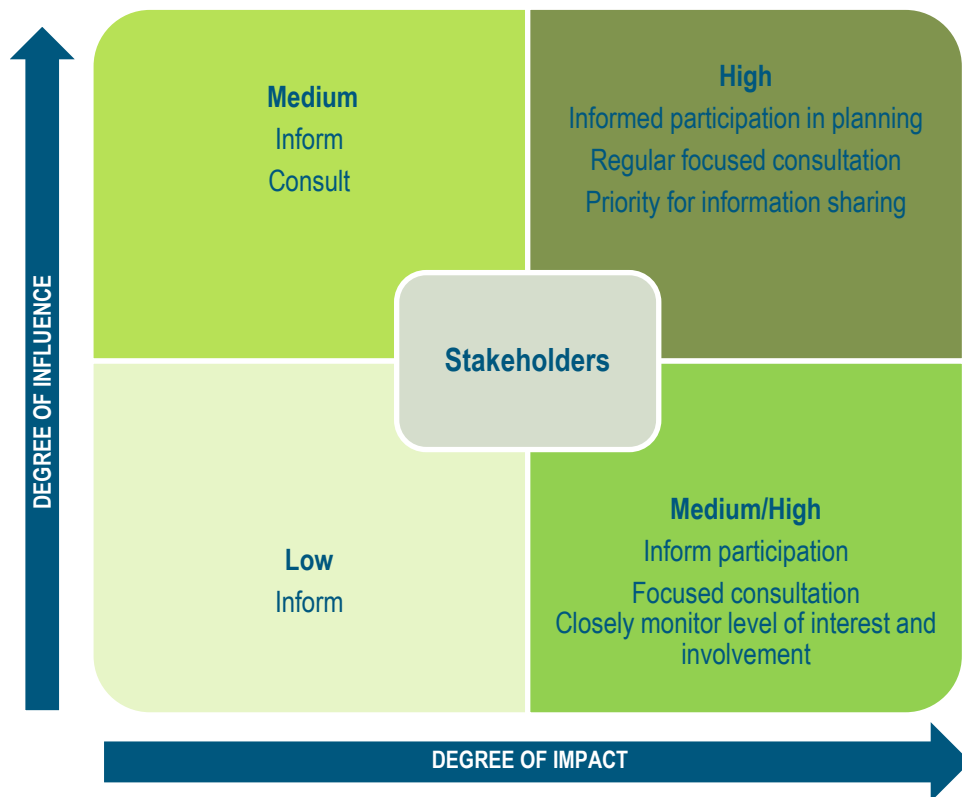


Figure 4-1: The Project's stakeholder mapping

Table 4-1: Stakeholder mapping

Stakeholder Group	Stakeholder	Degree of Impact	Degree of Influence	Resulting Stakeholder Category
Landowners	<ul style="list-style-type: none"> ▪ Heineken Sedibeng Brewery ▪ Investec ▪ Blue Rose Group 	High	High	High
National Government	<ul style="list-style-type: none"> ▪ South African National Heritage Resources Agency 	Medium	Medium	Medium
Provincial Government	<ul style="list-style-type: none"> ▪ Gauteng Department of Agriculture, Rural Development and Environment ▪ Gauteng Province Department of Water and Sanitation 	High	High	High
	<ul style="list-style-type: none"> ▪ Gauteng Department of Roads and Transport 	Low	Low	Low
Local Government	<ul style="list-style-type: none"> ▪ Midvaal Local Municipality ▪ Sedibeng District Municipality ▪ ERWAT ▪ Ward Councillor 	High	High	High
State-owned Entity	<ul style="list-style-type: none"> ▪ Rand Water 	Medium	Medium/High	Medium/High
	<ul style="list-style-type: none"> ▪ SANRAL 	Low	Low	Low
Community	<ul style="list-style-type: none"> ▪ Pilis Farm 	High	High	High
Businesses	<ul style="list-style-type: none"> ▪ Graceview Industrial Park ▪ Kliprivier Business Park ▪ Kliprivier Guest House ▪ Guest House Kliprivier Sinet ▪ Suikerbosch Country Guest House & Caterers ▪ BSi Steel ▪ Awesome Fire Braai Products SA ▪ Revive Electrical Transformers ▪ Pipestar Africa ▪ Isilo Steel ▪ Quality Corrosion and Projects ▪ Kwikspace Modular Buildings ▪ Calvary Tankers and Engineering ▪ FABCON Steel ▪ Egoli Waterworld and Funpark ▪ Everite Building Products ▪ Twinsaver ▪ Willowbrooke Estate ▪ Apex Superior ▪ Livingseeds 	Low	Low	Low

Stakeholder Group	Stakeholder	Degree of Impact	Degree of Influence	Resulting Stakeholder Category
Schools	<ul style="list-style-type: none"> ▪ Sky Kiddies Day Care ▪ Little Sprouts Preschool ▪ Sibonile School For The Blind ▪ Greener Pastures Preschool ▪ Future Bokamoso Nursery ▪ Royal School Sky City ▪ Gardenvale Academic School ▪ Queen Academy School 	Low	Low	Low

5 Stakeholder Engagement Programme

The primary objective of the stakeholder engagement programme is:

- To inform stakeholders of the Project;
- To initiate meaningful and timeous participation of stakeholders;
- To identify issues and concerns of key stakeholders with regards to the Project (i.e. Focus on important issues);
- To promote transparency and an understanding of the Project and its potential environmental (social and biophysical) impacts (both positive and negative);
- To ensure inclusivity (the needs, interests and values of stakeholders must be considered in the decision-making process);
- To provide responses to stakeholder queries; and
- To provide information used for decision-making.

5.1 Information Disclosure

Table 5-1 includes a description of how information was made accessible to stakeholders.

Table 5-1: Information disclosure for the Project

Format of Information Disclosure	Method
Landowner consent and written notices	Written consent was obtained from the owner of the land (i.e. Heineken) as Soufflet Malt is not the owner of the site on which the Project is to be undertaken. Occupiers of land adjacent to the site as well as the Municipal Councillor and Local and District Municipalities were notified via written correspondence of the Project.
Notice boards	Appropriately sized notice boards in English and Afrikaans were erected at various noticeable locations around the perimeter of the Project and at strategic locations on or near the Project (e.g. Kliprivier Police Station, entrance to the Kliprivier Business Park, Unnamed intersection east of the site, Meyerton Public Library and De Deur Public Library) – Annexure B . The purpose of the notice boards is to notify the stakeholders of the Project and to invite them to register as a stakeholder and be involved in the Project.

Format of Information Disclosure	Method
Background information document (BID)	A background information document (BID) was compiled in English and Afrikaans with a summary in Sesotho (Annexure C). The aim of this document was to provide a brief outline of the application and the nature of the Project. It is also aimed at providing preliminary details regarding the ESIA and explains how stakeholders could become involved in the project. The document was distributed to all identified stakeholders, together with details of the Public Participation Consultant.
Advertisements	<p>Notification of the commencement of the ESIA and availability of the draft ESIA Report for review and comment was advertised in the <i>Northern Star</i>, the on the 13th of August 2024 in English, Afrikaans and Sesotho (Annexure D).</p> <p>Stakeholders were requested to register their interest in the Project and become involved in the study. The primary aim of this advertisement was to ensure that the widest group of stakeholders possible are informed and invited to provide input and questions and comments on the project.</p>
Meetings	<p>The purpose of a public/focus group meeting is to provide an appropriate forum to enable stakeholders to raise concerns related to the proposed Project. The intention is to give stakeholders an opportunity to interact on a one-on-one basis with technical and environmental representatives of Soufflet Malt and the Royal HaskoningDHV team. The following meeting will be conducted:</p> <p>Stakeholders: Midvaal and Sedibeng District Municipality Officials Meeting Type: Focus Group Date: 11 September 2024 Time: 10:00 - 12:00 Venue: Midvaal Municipality Town Hall, 25 Mitchell Street, Meyerton</p> <p>Stakeholders: Community and Landowners Meeting Type: Open Day /Public Meeting Date: 11 September 2024 Time: 14:00 - 17:00 Venue: Midvaal Municipality Town Hall, 25 Mitchell Street, Meyerton</p> <p>Stakeholders: Landowners, Local and Government Entities Meeting Type: Focus Group Date: 12 September 2024 Time: 10:00 - 12:00 Venue: Merchant Business Class Hotel, 155 Springbok road, Highbury, Midvaal Randvaal</p> <p>Formal minutes of the meeting will be compiled and distributed to the attendees. These proceedings will also be included as part of the final ESIA Report.</p>

Format of Information Disclosure	Method
Comments and Responses Report (CRR)	The issues and concerns raised during the stakeholder engagement process has been compiled in a CRR (Annexure E). All comments will be acknowledged and responded to with the assistance of Project team and proof will be provided in Annexure F .
Disclosure of reports	<p>All stakeholders will be afforded the opportunity to review and comment on the draft ESIA Report. A non-technical summary of the report will be translated into English, Afrikaans and Sesotho. A 30-calendar day period has been set aside for this process. Moreover, an advert will be placed in the local newspapers (<i>Northern Star</i>) in English, Afrikaans and Sesotho informing them of the latter. Additionally, all registered stakeholders will be notified of the availability of the report in writing or via email.</p> <p>The draft ESIA Report will be made available at the following public locations within the study area, which are all readily accessible to stakeholders:</p> <ul style="list-style-type: none"> ▪ De Deur Public Library, De Deur Municipal Buildings Corner of Weilbach & Middle Street, De Deur, 1884; ▪ Meyerton (Main) Library, Loch Street, Meyerton, 1961; and ▪ Royal HaskoningDHV website - https://www.royalhaskoningdhv.com/en/countries/south-africa/environmental-reports
Notification of the Environmental Authorisation (EA)	On receipt of an EA for the project, all stakeholders registered on the project database will be informed of the authorisation and its associated terms and conditions as well as the appeal procedure, in writing. The Environmental Authorisation will be advertised in the local newspaper in English, Afrikaans and Sesotho.

5.2 Consultation with Disadvantaged or Vulnerable Groups

An inclusive stakeholder engagement process considers all relevant stakeholders, accounting for e.g. women, youth, vulnerable groups, minorities or the elderly. This will be achieved in the following manner:

- The Project will consider ‘culturally appropriate’ consultation i.e. the stakeholder engagement team will be gender-aware and facilitate consultation that allows both women and men to express their views.
- Meetings (as far as possible) will be more accessible and convenient to disadvantaged and vulnerable groups.
- A Community Liaison Officer (CLO) that will have a regular presence in the local community and will be able to develop and maintain a good relationship with the community and engender trust.

6 Engagement Schedule

The stakeholder engagement schedule is presented in Table 6-1.

Table 6-1: Planned stakeholder engagement schedule

Phase	Engagement Method	Communication Method	Recipient Stakeholder/s	Date of Delivery
Pre-application	<ul style="list-style-type: none"> Formal arranged meeting 	<ul style="list-style-type: none"> Meeting 	Gauteng Department of Agriculture, Rural Development and Environment	21 May 2024
ESIA Disclosure	<ul style="list-style-type: none"> Written communication 	<ul style="list-style-type: none"> Notice boards BIDs Introductory emails Surveys 	Interested and affected stakeholders	<ul style="list-style-type: none"> 20 June - 23 July 2024
	<ul style="list-style-type: none"> Written communication 	<ul style="list-style-type: none"> Advert Emails Hard copies of the report Website 	Interested and affected stakeholders	<ul style="list-style-type: none"> 13 - 15 August 2024
	<ul style="list-style-type: none"> Public and Focus Group Meetings The Project will remain flexible should an alternative or additional engagement action be required with particular stakeholders 	<ul style="list-style-type: none"> Meetings of Minutes of meetings 	Interested and affected stakeholders	<ul style="list-style-type: none"> 11-12 September 2024
Notification of EA	<ul style="list-style-type: none"> Written communication 	<ul style="list-style-type: none"> Advert Emails Website 	Registered interested and affected stakeholders	TBD

7 Resources and Responsibilities

The EAPs supported by the Soufflet Malt team, was principally responsible for implementing the SEP for the ESIA. During the operational phase, the CLO undertakes stakeholder engagement and continues with the implementation of the grievance mechanism.

8 Grievance Mechanism

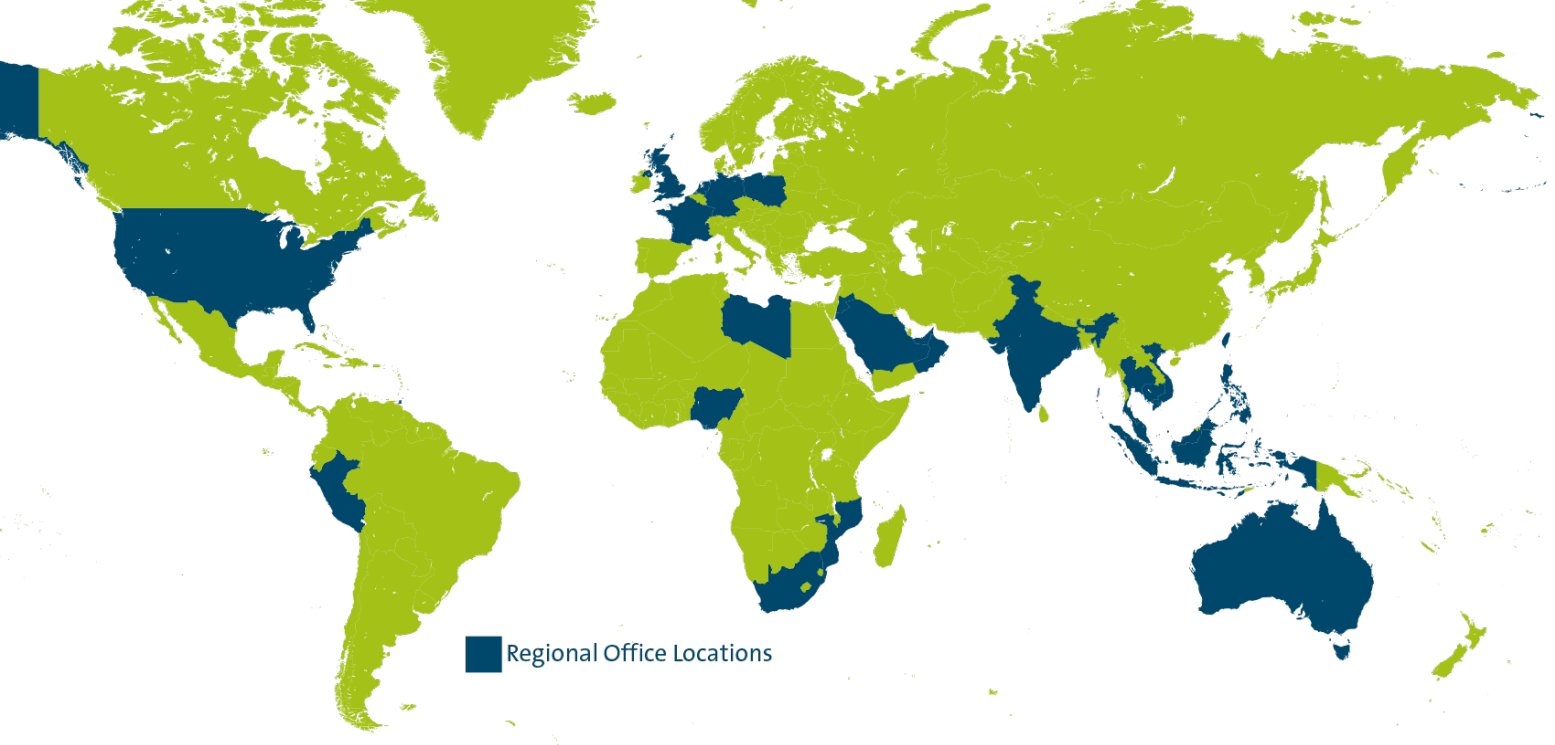
Soufflet Malt will implement a grievance mechanism for receiving, evaluating, and addressing Project-related grievances from affected communities at the level of the company, or Project. For a grievance mechanism to be effective, all Project stakeholders need to understand and support its purpose. The key steps for the Project's grievance management are presented in Figure 8-1.



Figure 8-1: Process steps of the Project's grievance mechanism

Table 8-1: Description of the various steps in the Project's grievance mechanism

Key steps in the Grievance Mechanism	Description
Step 1: Publicising the grievance mechanism	<ul style="list-style-type: none"> BID, notice boards, advert and written communication to interested and affected stakeholders indicating the intention of Soufflet Malt to establish a grievance mechanism. Face-to-face interactions and meetings.
Step 2: Receiving and keeping track of grievances	<ul style="list-style-type: none"> Grievances will be acknowledged in writing, within seven (7) days of receiving the grievance, through appropriate communication medium. During the ESIA study, the EAP will receive Project-related grievances. Grievances will be recorded in a Grievance Log. In the operational phase, Soufflet Malt will allocate a responsible person (CLO) to handle the grievances which will be recorded in the Grievance Register.
Step 3: Review and investigate grievances	<ul style="list-style-type: none"> All grievances received will be reviewed by the EAP and forwarded to the correct party (e.g. Client, Engineering Team, specialists) to respond to.
Step 4: Respond to grievances and close-out	<ul style="list-style-type: none"> Responses (either oral or written) will be forwarded within 30 days of receiving the grievance. If complainants are not likely to be satisfied with the outcome/response, meetings can be held to discuss and further clarify responses. When a resolution is reached, the Grievance Log/Register should be updated accordingly.
Step 5: Monitor and evaluate	<ul style="list-style-type: none"> Lessons learned throughout the process of handling grievances can help ensure continual improvement of the Soufflet Malt's operations.



Regional Office Locations

Royal HaskoningDHV is an independent consultancy which integrates 140 years of engineering expertise with digital technologies and software solutions. As consulting engineers, we care deeply about our people, our clients and society at large. Through our mission Enhancing Society Together, we take responsibility for having a positive impact on the world. We constantly challenge ourselves and others to develop sustainable solutions to local and global issues related to the built environment and the industry.

Change is happening. And it's happening fast – from climate and digital transformation to customer demands and hybrid working. The speed and extent of these changes create complex challenges which cannot be addressed in isolation. New perspectives are needed to accommodate the broader societal and technological picture and meet the needs of our ever-changing world.

Backed by the expertise of over 6,000 colleagues working from offices in more than 20 countries across the world, we are helping organisations to turn these challenges into opportunities and make the transition to smart and sustainable operations. We do this by seamlessly integrating engineering and design knowledge, consulting skills, software and technology to deliver more added value for our clients and their asset lifecycle.

We act with integrity and transparency, holding ourselves to the highest standards of environmental and social governance. We are diverse and inclusive. We will not compromise the safety or well-being of our team or communities – no matter the circumstances.

We actively collaborate with clients from public and private sectors, partners and stakeholders in projects and initiatives. Our actions, big and small, are driving the positive change the world needs, and are enhancing society now and for the future.

Our head office is in the Netherlands, and we have offices across Europe, Asia, Africa, Australia and the Americas.



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Project related

ANNEXURE A

Database



PROJECT DATA BASE

EIA REFERENCE

Royal HaskoningDHV

Project Title:	Soufflet Maltings - Sedibeng
Project Number:	MD6264
Date Modified:	2024/08/06
Name of Organisation	Type of Organisation
CLIENT	
Soufflet Malting	
Soufflet Malting	
Soufflet Malting	
Soufflet Malting	
LANDOWNERS	
Heineken Sedibeng Brewery	Brewery
Heineken Sedibeng Beverages	Brewery
Heineken Sedibeng Brewery	Brewery
Investec	Bank
Investec	Bank
Asset Auctions Pty Ltd	Business
CBR DEVELOPMENTS PTY LTD	
GOVERNMENT AUTHORITIES	
GDARDE	Government
GDARDE	Government
DWS	Government
DWS	Government

Gauteng Department of Roads and Transport	Government
SEDIBENG MUNICIPAL	
Transport Infrastructure & Environment	Local Government
Transport Infrastructure & Environment	Local Government
Strategic Planning and Economic Development	Local Government
AEL and Permitting	Local Government
AEL and Permitting	Local Government
Office of the Speaker	Local Government
MIDVAAL MUNICIPALITY	
Town Planner GIS	Local Government
Water and Sanitation	Local Government
	Local Government
Environmental Health	Local Government
Environmental Health	Local Government
Environmental Management	Local Government
Midvaal Library	Local Government
De Deur Library	Local Government
Midvaal Speakers Office /Marketing	Local Government
Midvaal Speakers Office /Marketing	Local Government
Environmental Planning	Local Government
Development and Planning	Local Government
KLIPRIVIER POLICE STATION	
Kliprivier Police Station	Law Enforcement
LOCAL BUSINESSES	

AHG TOWN PLANNING	Business
Decorato Events (PTY) Ltd	Business
Royal School Sky City	School
AFM Faithful Faith Center - Sky City	Church
Sky City Luxury guest House	Accommodation
Cosmetic Connection Alberton	Business
M&A Logistics Workshop	Business
Sun Valley Wedding and Golf Venue	Venue
Erfdeel	Accommodation
Drumblade parkrun	Hiking area
The Green Horse Club	Farm
Natures Heritage	Farm
Bosco Youth Centre	Youth Centre
Randvaal Chickens CC	Business
Livingseeds Heirloom Seeds (Pty) Ltd	Business
De Vries Attorneys Inc.	Business
Lejone Projects and General Suppliers	Business
Engen Blockhouse 1 Stop North	Business
Carmaky	Business
Empress Realty {PTY} LTD	Business
Reliable Print & Art Services	Business
Automotive Refinisher	Business
Drumblade Alpacas	Farm
MVR Projects	Business
Blue Saddle Ranches Equestrian Estate	Farm
Meze Foods	Business
Café du Cirque - Boswell Wilkie Circus	Business
SPRAYMATE	Business
Dabeb Engineering	Business
La B'Elle Vita	Venue
BM Thatchers	Business
AminoTek Agri	Agri
Calvary Tankers	Commercial
FabCon Steel	Steel

Kliprivier Guesthouse	Lodging
Suikerbosch Country Guest House & Caterers	Lodging
Guest House Kliprivier Sinet	Lodging
Landy Dude	Commercial
Everite Building Products	Commercial
M4A	Commercial
Sky Kiddies Daycare	Commercial
Erwat	Business
Randwater	Business
WillowBrooke Wedding Venue	Commercial
Twinsaver	Commercial
Gift of the Educators NPC	Non-Profit
Heineken Sedibeng Brewery	Brewery
New Hope Agri	Agri
Lil Masters Nappies	Commercial
Mersensky	Timber
Airshrink	Commercial
Paramount Trailers	Commercial
Global I Solutions	Commercial
MultiSurge Medical Products	Medical Commercial
JMB Cranes	Commercial
JMB Cranes	Commercial
JMB Cranes	Commercial
FloSave	Commercial
FloSave	Commercial
Apex Superior Parts	Commercial
Facility Fire	Services
Awesome Fire Braai Products	Commercial
Bsi Steel	Steel
Revive Electrical Transformers	Electrical
Pipestar	Commercial
Fibre Roofing	Commercial
Kwikspace	Commercial

Isilo Steel	Steel
Quality Corrosion and projects	Commercial
Fabricated Concrete	Commrcial
Lejone Projects and General	Business
Lejone Projects and General	Business
RTC control system Pty	Security
Expol Security Services	Seurity
Iveco Midvaal	Logistics
Flosolve Pty	Business
Afriguard Pty Ltd	Business
Devco Auctioneers and Sales	Business
Nuvest Chemicals Pty Ltd	Business
Randvaal Trekkers & Implemente	Business
Swagga Breweries	Business
Bierman Agri South Africa	Business
Lynca Factory Shop	Business
Highveld horse care unit	Business
Bass Lake Adventure	Business
Livingseeds Heirloom Seeds Pty	Business
ATNS	Aviation Authority
GENERAL COMMUNITY	

Project related

ANNEXURE B

Site Notices

SITE NOTICES



Figure 1 – Site Notices Placed at Kliprivier Police Station



Figure 2 – Site Notice Placed Southwest of the Site



Figure 3 – Site Notices Placed North of the Site



Figure 4 - Placed at Midvaal De Deur Public Library

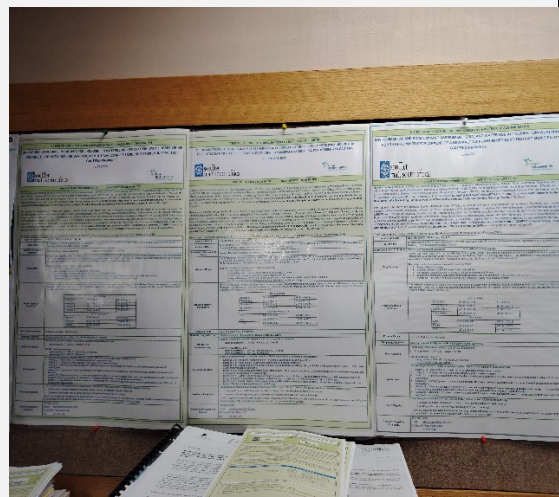


Figure 5 - Placed at Midvaal Municipality Main Library

Project related

ANNEXURE C

Background Information Document

English

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA)
PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT IN THE SEDIBENG DISTRICT
MUNICIPALITY, GAUTENG PROVINCE**

BACKGROUND INFORMATION DOCUMENT

(JUNE 2024)



GDARDE REF: TBC

DWS REF: TBC

BACKGROUND

The Soufflet Group, the world’s leading malt producer, operates more than 41 malting plants worldwide and is currently the biggest maltster in the world. The Soufflet Group has developed expertise in process management to achieve high quality malt and to optimize energy consumption. Soufflet Malt South Africa (Pty) Ltd, a subsidiary of the Soufflet Group, has obtained funding from the International Finance Corporation (IFC) for the establishment of a malt plant which will be located in the Sedibeng District of Gauteng (“The Project”). The Project which is expected to be operational for 50 years, will have an annual capacity of 100kT/year in Phase 1 and 135kT/year in Phase 2 for the local market.

The Project is envisaged as an import substitution and enhancement of barley production in the agricultural sector in South Africa. The beer sector in South Africa contributes to roughly 1 in every 66 jobs in the country, with the supply chain comprising farmers, packaging manufacturers, brewers, distributors, and retailers.

PROPERTY DESCRIPTION

The Project (26° 25’ 48.60” S; 28° 04’ 12.90” E) is located to the south of the Heineken Sedibeng Brewery within a greenfield area in the Sedibeng District- and Midvaal Local Municipality. The R59 road runs east of the Project, with the Heineken Solar PV Plant located to the west. The Project site is owned by Heineken South Africa (Pty) Ltd and zoned as “Industrial 1 with an annexure for an Agricultural Industry.”

The details of the Project are provided below:

Size/Length	Farm Details	Property Owner	Co-Ordinates
Approximately 10ha	Portion 0 of Erf No. 244, Graceview	Heineken South Africa (Pty) Ltd	Corner Points
Approximately 270m			Corner Point 1: 26° 25’ 42.70” S 28° 04’ 08.22” E Corner Point 2: 26° 25’ 45.53” S 28° 04’ 19.57” E Corner Point 3: 26° 25’ 55.33” S 28° 04’ 17.92” E Corner Point 4: 26° 25’ 52.44” S 28° 04’ 06.72” E
			Main Access: Start: 26° 26’ 03.79” S 28° 04’ 17.62” E Middle: 26° 25’ 59.47” S 28° 04’ 16.92” E End: 26° 25’ 55.33” S 28° 04’ 17.65” E

PROJECT DESCRIPTION

The malting production process consists of the following stages:

- Barley intake and storage;
- Steeping: initiation of growth through forced grain hydration;
- Germination: controlled growth of barley to facilitate endosperm modification;
- Kilning: the termination of grain growth to fix extract potential and malt specifications through grain dehydration; and
- Distribution – the kilned malt is dispatched to the Heineken Brewery via a conveyor system.

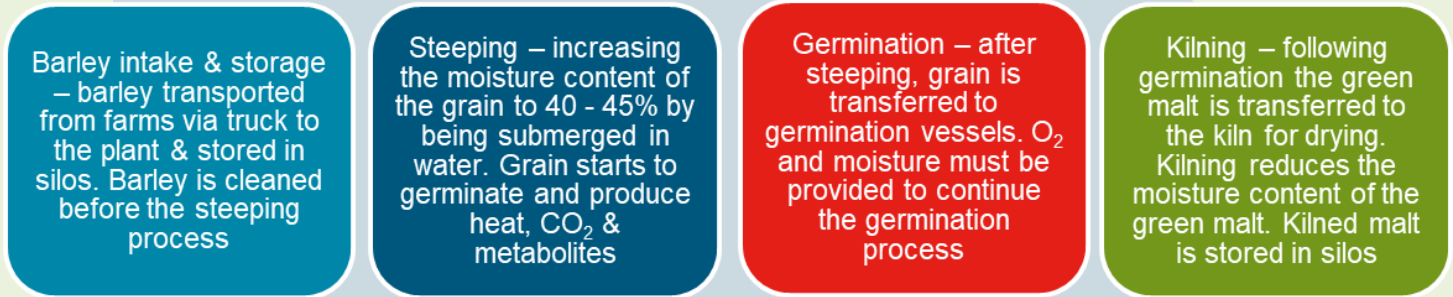


Figure 1: Process description

The key Project components are presented below:

General Arrangement of Proposed Buildings	Description
Working building	<ul style="list-style-type: none"> ▪ The process of barley intake, cleaning and grading and malt blending, cleaning and bulk shipping will take place at this building.
Malt buildings/infrastructure	<ul style="list-style-type: none"> ▪ Barley storage silos; Steeping building; Germination vessels; Kilns; Malt storage silos; Conveyor to the Heineken Brewery.
Energy system	<ul style="list-style-type: none"> ▪ Capacity of the combined heat and power genset (CHP) (including back up system) - 8MW of heating energy, 4MW of cooling energy and 3MW of electrical power through the CHP Plant, heat pumps and heat exchangers. ▪ 70GWh gas for CHP will be used. Approximately 70GWh of gas will be used per year. ▪ Capacity of the boilers (back-up) – 2 x 6MW using liquified natural gas (LNG) as a fuel source ▪ <i>The Solar PV Project will not form part of the project scope but will be considered in future.</i>
Water storage	<ul style="list-style-type: none"> ▪ The malting process consumes large amounts of water daily. The expected water usage for the current mandate based on the process mass energy balance spreadsheet is projected at 1000m³/day peak load. ▪ One (1) freshwater tank of 1000m³ available water storage volume. This volume includes 10% spare capacity for malt production usage demand for 24 hours. ▪ One (1) process water tank of 1000m³ available water storage volume. This volume including the option to be 50% recycled water.
Wastewater storage and treatment plant	<p>Effluent will either be discharged directly into ERWAT (preferred) or on-site treatment of wastewater and discharge (alternative)</p> <ul style="list-style-type: none"> ▪ Treatment of the following wastewater streams: <ul style="list-style-type: none"> ○ Domestic sewage/wastewater from the Administration building. ○ Industrial effluent/wastewater emanating from the washing and germination process of a maximum of 900m³/d. ○ Volume of wastewater treated per day – 575m³ (Phase 1). ▪ Concrete tank at the bottom of the steeping building which will serve as (bulk) process effluent storage with a capacity of 1000m³.
Ammonia storage	<ul style="list-style-type: none"> ▪ Approximately 1.5 tonnes (2000m³).
Ancillary infrastructure	<ul style="list-style-type: none"> ▪ Admin building, Construction lay-down area, Internal conveyor system to transport grain between the Steeping building, Germination vessels, Kilning area, Bagging and chemical storage buildings, Fire pump room, gatehouse, weighbridge, truck staging area, waste pick-up area, internal access roads, staff parking.

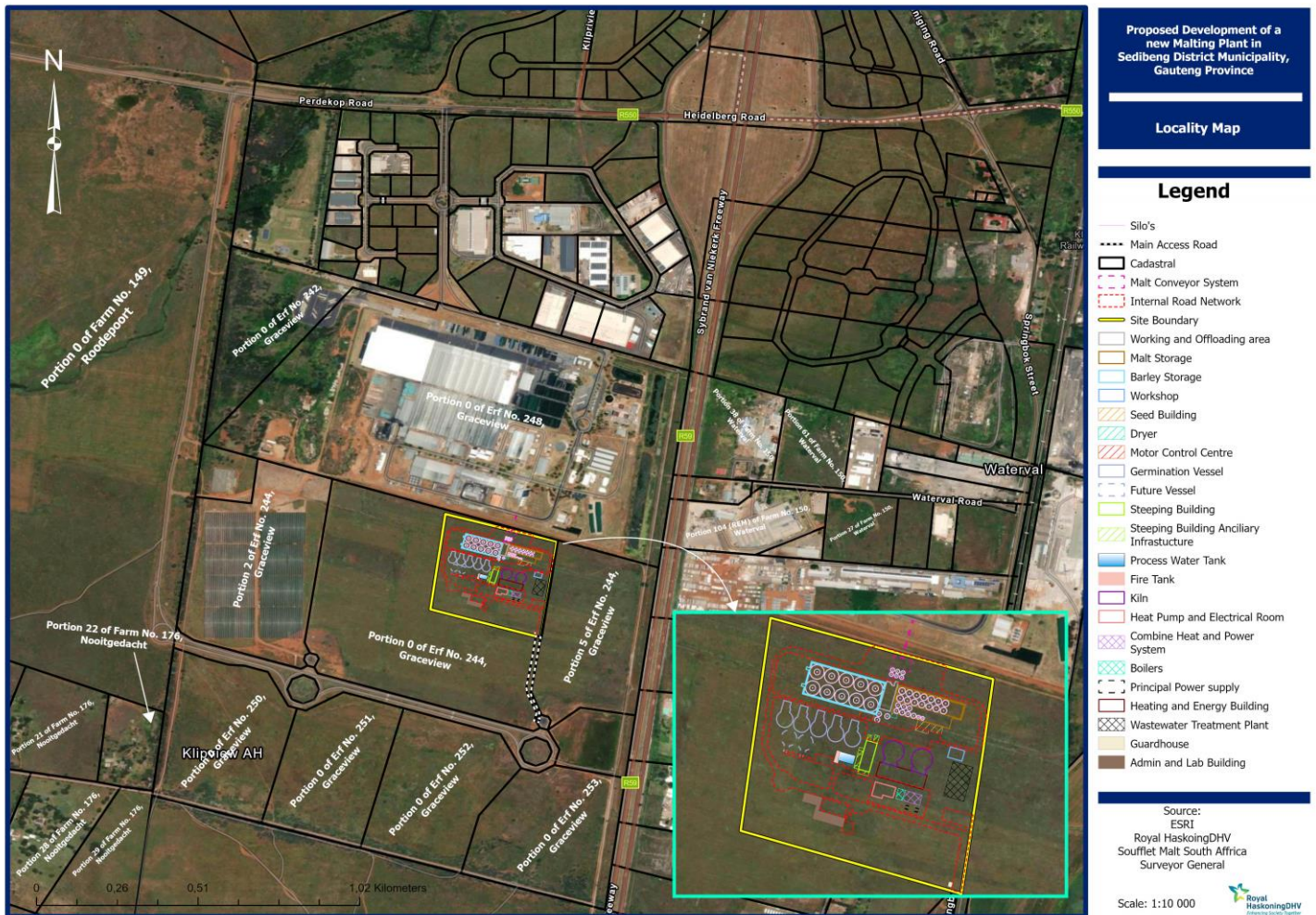


Figure 2: Locality map

WHAT THE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT?

A number of potential environmental impacts associated with the Project have been identified. As part of the ESIA and WUA studies, these potential impacts will be assessed through the following specialist studies:

Specialist Study	Organisation
Air Quality and Climate Change	Airshed Planning Professionals
Freshwater	Scientific Aquatic Services
Geohydrology and Hydrology	GCS Water & Environmental Consultants
Heritage & Palaeontology	PGS Heritage
Noise	Enviro Acoustic Research
Socio-economic	Eco Thunder Consulting
Traffic	Royal HaskoningDHV

WHY ARE ENVIRONMENTAL STUDIES NEEDED?

In terms of the EIA Regulations Government Notice Regulation (GNR) 324 – 327, published in terms of Section 24(5), and read with Section 44, of the National Environmental Management Act (NEMA) (Act No. 107 of 1998), Soufflet Malt South Africa requires an Environmental Authorisation from the Gauteng Department of Agriculture, Rural Development and Environment (GDARDE) for undertaking the Project as it includes electricity generation activities listed under Listing Notice 1 of the EIA Regulations 2014 (as amended). In addition, the Gauteng Provincial Environmental Management Framework (GPEMF) and Exclusion of Associated Activities from the Requirement to obtain an Environmental Authorisation (No. 164, 02 March 2018) also has to be considered as the Project is located within Zone 5: Industrial and Commercial Focus Zone whereby certain activities are excluded from obtaining an Environmental Authorisation but rather a registration with the GDARDE as per the exclusion standard prescribed by the GPEMF (GN No.164).

The Project must also comply with the IFC Performance Standards and Good International Industry Practices (GIIP).

The following activities of Listing Notice 1 are triggered:

Listing Notice	Activity Number	Description and Applicability
1 (GNR 327)	2	The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where— <ol style="list-style-type: none"> i. the electricity output is more than 10 megawatts but less than 20 megawatts; or ii. the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare. <p><i>Applicable to the Combined Heat and Power generation system (4MW) using liquified natural gas (LNG) and back-up boilers 2 x 6MW boilers using LNG.</i></p>
	19	The infilling or depositing of any material of more than 10m ³ into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10m ³ from a watercourse. <p><i>Construction or upgrading of infrastructure within watercourses.</i></p>

Since Listing Notice 1 activities of the EIA Regulations 2014 (as amended) are triggered, a Basic Assessment study as contemplated in Regulation 19 and 20 of the EIA Regulations 2014 (as amended), must be followed in order to obtain Environmental Authorisation in order to satisfy the local regulatory requirements.

According to the GPEMF Exclusion Standards, activities have been excluded from obtaining an Environmental Authorisation as per the EIA Regulations, 2014 (as amended), the activities indicated below have been excluded and will follow a registrations process as prescribed in the GPEMF (GN No.164).

Listing Notice	Activity Number	Description and Applicability
1 (GNR 327)	25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2,000m ³ but less than 15,000m ³ .
	27	The clearance of an area of 1ha or more, but less than 20ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for – <ol style="list-style-type: none"> i. the undertaking of a linear activity; or ii. maintenance purposes undertaken in accordance with a maintenance management plan.
	28	Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development: <ol style="list-style-type: none"> i. will occur inside an urban area, where the total land to be developed is bigger than 5 ha; or ii. excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.
	56	Activity 56 of LN1 - The widening of a road by more than 6 m, or the lengthening of a road by more than 1 km— <ol style="list-style-type: none"> i. where the existing reserve is wider than 13.5 m; or ii. where no reserve exists, where the existing road is wider than 8 m excluding where widening or lengthening occur inside urban areas.
2 (GNR 325)	4	The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 m ³ .

Additionally, as the Project involves several water-related activities, a WUA will be submitted to the Department of Water and Sanitation (DWS) as per Sections 21 (a), (b), (c), (f) (g) and (i) of the National Water Act (Act No. 36 of 1998) (as amended).

The following water uses in terms of Section 21 of the NWA are being applied for:

- Section 21 a: Taking water from a water resource (applicable for borehole abstraction);
- Section 21 b: Storing water (applicable to the storage of potable water in a tank);
- Section 21 c: Impeding or diverting the flow of water in a watercourse (applicable for water crossings and/or infrastructure within 500m to the regulated wetland area);
- Section 21 f: Discharging waste or water containing waste into a water resource (applicable to the discharge of treated effluent from the malting process into the Klip River); and
- Section 21 g: Disposing of waste in a manner which may detrimentally impact on a water resource (applicable to the storage of untreated effluent from the malting process in a tank and disposal of effluent into an on-site wastewater treatment plant (alternative option).

- Section 21 i: Altering the bed, banks, course or characteristics of a watercourse (applicable for water crossings and/or infrastructure within 500m to the regulated wetland area).

Soufflet Malt South Africa has appointed Royal HaskoningDHV to provide independent Environmental Assessment Practitioner (EAP) services for the proposed Project. As part of these environmental studies, all I&APs will be actively involved through the PP and stakeholder engagement processes.

PROTECTION OF PERSONAL INFORMATION ACT, 2013 (Act No. 14 of 2013) (POPIA)

The purpose of this Act is to —

1. Give effect to the constitutional right to privacy, by safeguarding personal information when processed by a responsible party, subject to justifiable limitations that are aimed at—
 - a. balancing the right to privacy against other rights, particularly the right of access to information; and
 - b. protecting important interests, including the free flow of information within the Republic and across international borders;
2. Regulate the manner in which personal information may be processed, by establishing conditions, in harmony with international standards, that prescribe the minimum threshold requirements for the lawful processing of personal information;
3. Provide persons with rights and remedies to protect their personal information from processing that is not in accordance with this Act; and
4. Establish voluntary and compulsory measures, including the establishment of an Information Regulator, to ensure respect for and to promote, enforce and fulfil the rights protected by this Act.

POPIA and the EIA Regulations, 2014 (as amended)

As per Chapter 6 of the EIA Regulations, 2014 (as amended), a BA study must involve a PP and stakeholder engagement process. The PP and stakeholder engagement processes are designed to enable all I&APs to voice their opinion and/or concerns which enables the EAP to evaluate all aspects of the Project, with the objective of improving the Project by maximising its benefits while minimising its adverse effects.

As per Section 42 of the EIA Regulations, 2014 (as amended), an EAP on behalf of the Applicant (i.e. Soufflet Malt South Africa must ensure that a register of I&APs containing names, contact details and addresses is opened and maintained throughout the study. Proof of the PP and stakeholder engagement process (of which the I&AP database is included) is submitted to the relevant Competent Authority (CA) to ensure all relevant I&APs have been afforded the right to express their concerns and have these concerns documented in a Comments and Response Report so that the CA may be able to make an informed decision on the Project. The personal information provided as part of the PP and stakeholder engagement process will be used purely to update you on the progress of the Project and to inform you of any input required such as details of the commenting period, availability of the reports, meetings etc. as well as notification of the decision and subsequent appeal period. However, it must be stated that registering as an I&AP is a voluntary process, should an I&AP not consent to being registered on the I&AP database, any comment received will not be able to be recorded and shared with the CA.

The I&AP database will also be shared with the CA, and should an appeal be lodged against the Project, the EAP and Applicant is obligated to share the I&AP database containing the personal information with the Appellant as per paragraph 4(1) of the National Environmental Management Act: Appeals Regulations, 2014 (as amended).

Furthermore, the processing of personal information is governed by the Royal HaskoningDHV-SA Protection of Personal Information Policy, which states that, the Company will ensure that it: -


1. Complies with privacy and data protection law and follows good practice;
2. Protect the rights of individuals;
3. Is open about how it stores and processes individuals' data; and
4. Protect itself from the risks of a data breach.


PUBLIC PARTICIPATION PROCESS


It is important that relevant I&APs are identified and involved in the PP and stakeholder engagement process from the outset of the Project. To ensure effective PP and stakeholder engagement, the process includes the following key steps:

 **Step 1**
Create awareness & notification-advert, BID, site notices

 **Step 2**
Register I&APs & stakeholders on the database (ongoing)

 **Step 3**
Consultation with & transfer of information to I&APs & stakeholders

 **Step 4**
Invite I&APs to review and comment on the ESIA(30-day comment period) & WUA (60-day comment period)

 **Step 5**
Record all comments, issues & concerns raised by I&APs within the Comments and Responses Record, which will form an integral part of the ESIA.

GRIEVANCES

A grievance mechanism will be established to receive and facilitate resolution of I&AP concerns and grievances about the Project. The grievance procedures will be in place from the beginning of the ESIA process and exist throughout construction and operations through to the end of project life. The grievance mechanism seeks to resolve concerns promptly using a robust and transparent consultative process that is culturally appropriate and readily accessible to the affected parties.

HOW CAN YOU GET INVOLVED?

If you consider yourself an I&AP for this proposed Project, we urge you to become involved.

- By responding (by phone or e-mail) to our invitation for your involvement in the process;
- By completing the attached comment form and mailing it to Sibongile Gumbi at Royal HaskoningDHV;
- In writing, contacting the EAP if you have a query, comment or require further Project information; and
- By reviewing and commenting on the consultation ESIA Report within a 30-day review period and the WUA Application within a 60-day review period.

Your input into this process forms a key part of the environmental study and we would like to hear from you to obtain your views on the proposed Project.

By completing and submitting the accompanying response form, you automatically register yourself as an I&AP for this Project, and ensure that your comments, concerns and/ or queries raised regarding the Project will be noted.

COMMENTS AND QUERIES ON THE PROJECT CAN BE DIRECTED TO

Sibongile Gumbi	Royal HaskoningDHV PO Box 867, Gallo Manor, 2052		 Royal HaskoningDHV <i>Enhancing Society Together</i>
	Tel	087 352 1506	
	Email	sibongile.gumbi@rhdhv.com	

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA)
PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT IN THE SEDIBENG DISTRICT
MUNICIPALITY, GAUTENG PROVINCE**

(JUNE 2024)

GDARDE REF: TBC

DWS REF: TBC

YOUR COMMENTS AND QUERIES ARE WELCOME

Please **complete** this Comment Form **in full** and return to:

Sibongile Gumbi	Royal HaskoningDHV		
	PO Box 867, Gallo Manor, 2052, Johannesburg		
	Tel	087 352 1506	
	Email	sibongile.gumbi@rhdhv.com	

Title (Prof/Mr/Mrs)		First name	
Surname			
Capacity (e.g. Secretary / Director)			
Organisation			
Postal address		Postal code	
Tel No. ()		Cell No.	
Fax No. ()		Email address	

What comments / concerns would you like to raise regarding this proposed Project? (Please use additional pages, if required)

.....

.....

.....

PLEASE REGISTER THE FOLLOWING PERSON(S) ON THE PROJECT DATABASE:

Title (Prof/Mr/Mrs)		First name	
Surname			
Capacity (e.g. Secretary / Director)			
Organisation			
Postal address		Postal code	
Tel No. ()		Cell No.	
Fax No. ()		Email address	
Signature			

IF YOU PREFER NOT TO RECEIVE ANY FURTHER INFORMATION REGARDING THIS PROPOSED PROJECT, AND, WOULD PREFER TO BE REMOVED FROM THE PROJECT DATABASE AT ANY TIME DURING THE PROCESS YOU CAN CONTACT THE PUBLIC PARTICIPATION CONSULTANTS LISTED IN THIS DOCUMENT (CONTACT DETAILS AS PROVIDED ABOVE).

Project related

ANNEXURE C

Background Information Document

Afrikaans

OMGEWINGS- EN MAATSKAPLIKE IMPAKSTUDIE (OSIB) EN WATERGEBRUIKSMAGTIGING(WGM) PROSES
VIR DIE VOORGESTELDE ONTWIKKELING VAN 'N NUWE MOUTAANLEG IN DIE SEDIBENG DISTRIK
MUNISIPALITEIT, GAUTENG PROVINSIE

AGTERGRONDINLIGTINGSDOKUMENT

(JUNIE 2024)



GDARDE VERWYSINGSNOMMER: TBC

DWS VERWYSINGSNOMMER: TBC

AGTERGROND

Die Soufflet Groep, die wêreld se voorste produsent van mout, bedryf meer as 41 mout aanlegte wêreldwyd en is tans die grootste mout vervaardiger in die wêreld. Die Soufflet Groep het kundigheid ontwikkel in prosesbestuur om hoëgehalte mout en geoptimaliseerde energieverbruik te bereik. Soufflet Malt South Africa (Pty) Ltd, 'n filiaal van die Soufflet Groep, het befondsing van die Internasionale Finansieringskorporasie (IFC) verkry vir die oprigting van 'n mout aanleg wat in die Sedibeng-distrik van Gauteng geleë sal wees ("Die Projek"). Die Projek, wat ver wag word om vir 50 jaar operasioneel te wees, sal 'n jaarlikse kapasiteit van 100kT/jaar in Fase 1 en 135kT/jaar in Fase 2 vir die plaaslike mark hê.

Die Projek word beskou as 'n invoervervanging en verbetering van gars produksie in die landbousektor in Suid-Afrika. Die biersektor in Suid-Afrika dra by tot ongeveer 1 uit elke 66 werksgeleenthede in die land, met die voorsieningsketting wat bestaan uit boere, verpakkingsvervaardigers, brouers, verspreiders, en kleinhandelaars.

EIENDOMSBEKRYWING

Die Projek (26° 25' 48.60" S; 28° 04' 12.90" E) is geleë suid van die Heineken Sedibeng Brouery in 'n groenveld gebied in die Sedibeng-distrik en Midvaal Plaaslike Munisipaliteit. Die R59-pad loop oos van die Projek met die Heineken Solar PV-aanleg wat na die weste geleë is. Die Projekperseel behoort aan Heineken South Africa (Pty) Ltd en is gesoneer as "Industrieel 1 met 'n aanhangsel vir Landbou-bedryf."

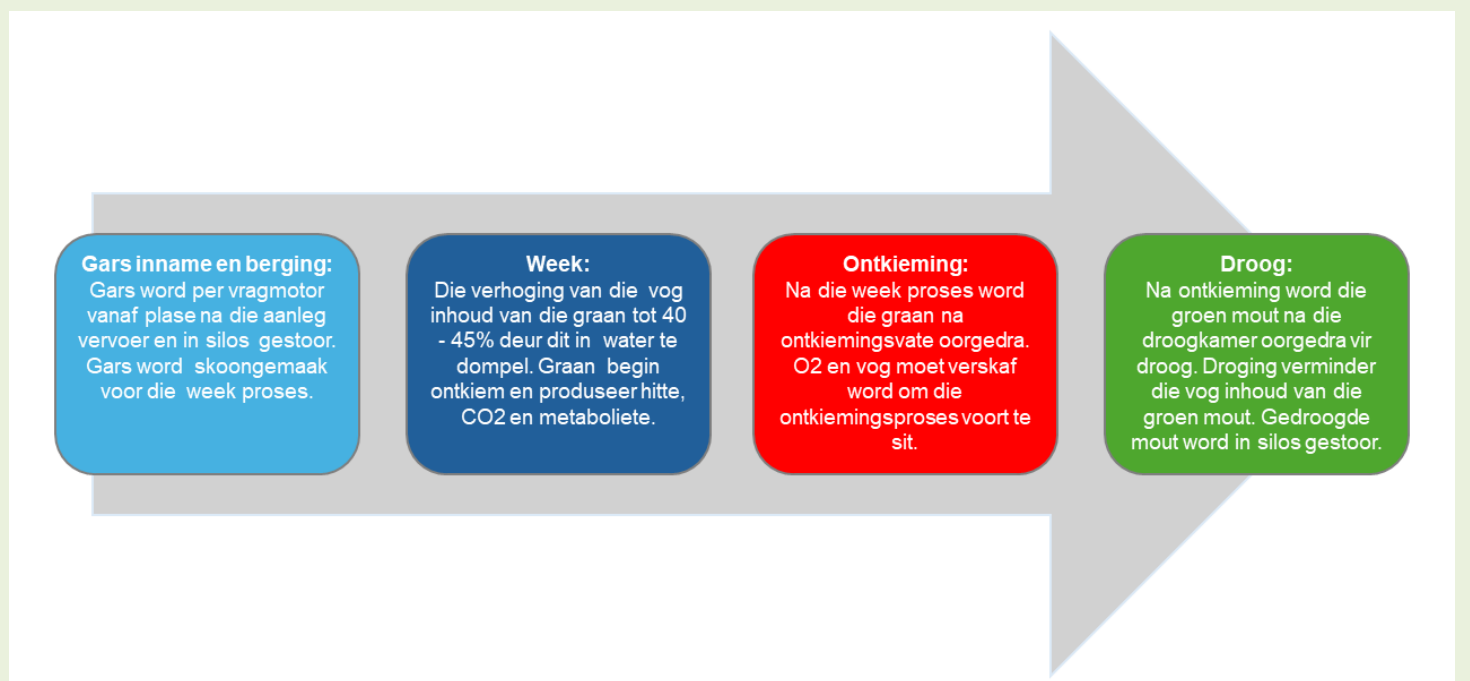
Die besonderhede van die Projek word hieronder verskaf:

Grootte/Lengte	Eiendomse besonderhede	Eiendomseienaar	Koördinate
Ongeveer 10ha	Gedeelte 0 of Erf No. 244, Graceview	Heineken South Africa (Pty) Ltd	Hoekpunte
Ongeveer 270m			Hoekpunt 1: 26° 25' 42.70" S 28° 04' 08.22" E Hoekpunt 2: 26° 25' 45.53" S 28° 04' 19.57" E Hoekpunt 3: 26° 25' 55.33" S 28° 04' 17.92" E Hoekpunt 4: 26° 25' 52.44" S 28° 04' 06.72" E
			Hoof Toegang:
			Beginpunt: 26° 26' 03.79" S 28° 04' 17.62" E Middelpunt: 26° 25' 59.47" S 28° 04' 16.92" E Eindpunt: 26° 25' 55.33" S 28° 04' 17.65" E

PROJEKBESKRYWING

Die mout produksieproses bestaan uit die volgende stadiums:

- Inname en berging van gars;
- Week: aanvang van groei deur gedwonge graan hidrasie;
- Ontkieming: beheerde groei van gars om endosperm modifikasie te fasiliteer;
- Droog: die beëindiging van graangroei om verdere potensiaal en mout spesifikasie vas te stel deur graan dehidrasie; en
- Verspreiding: die gedroogde mout word via 'n vervoerbandstelsel na die Heineken Brouery gestuur.



Figuur 1: Proses beskrywing

Die hoof komponente van die Projek word hieronder aangebied:

Algemene Rangskikking van Voorgestelde Geboue	Beskrywing
Werksgebou	<ul style="list-style-type: none"> Die proses van gars inname, skoonmaak en gradering, mout menging, skoonmaak en massaverstuur sal by hierdie gebou plaasvind.
Moutgeboue/infrastruktuur:	<ul style="list-style-type: none"> Garsberging silos; Weekgebou; Ontkiemingsvate; Droogkamers; Moutberging silos; Vervoerband na die Heineken Brewery.
Energie stelsel:	<ul style="list-style-type: none"> Kapasiteit van die gekombineerde hitte- en kragopwekker (CHP) (insluitend rugsteunstelsel) - 8MW verhittingsenergie, 4MW verkoelingsenergie, en 3MW elektriese krag deur die CHP Plant hittepompe en hittewisselaars. 70GWh gas sal jaarliks gebruik word. Kapasiteit van die ketels (rugsteun) – 2 x 6MW wat vloeibare aardgas (LNG) as brandstofbron gebruik. <i>Die Solar PV Projek sal nie deel uitmaak van die projekomvang nie, maar sal in die toekoms oorweeg word.</i>
Waterberging:	<ul style="list-style-type: none"> Die mout proses verbruik daagliks groot hoeveelhede water. Die verwagte waterverbruik vir die huidige mandaat gebaseer op die proses massa energie balans sigblad word geprojekteer op 1000m³/d piekbelasting. Een (1) varswater tenk van 1000m³ beskikbare waterberging volume. Hierdie volume sluit 10% spaar kapasiteit in vir mout produksie gebruiksaanvraag vir 24 uur. Een (1) proses watertenk van 1000m³ beskikbare waterberging volume. Hierdie volume sluit die opsie in om 50% herwinde water te wees.
Afvalwater berging en behandelingsaanleg:	<p>Afvalwater sal óf direk in ERWAT geloog word (voorkeur) óf op die perseel behandeling van afvalwater en ontslag (alternatief).</p> <ul style="list-style-type: none"> Behandeling van die volgende afvalwater strome: <ul style="list-style-type: none"> Huishoudelike riool/afvalwater van die Administrasiegebou. Industriële afvalwater wat voortspruit uit die was- en ontkiemingsproses van 'n maksimum van 900m³/d. Volume van afvalwater wat per dag behandel word – 575m³ (Fase 1). Beton tenk aan die onderkant van die weekgebou wat sal dien as (grootmaat) proses afvalwaterberging met 'n kapasiteit van 1000m³.
Ammoniakberging:	<ul style="list-style-type: none"> Ongeveer 1.5 ton (2000m³).
Hulpinfrastruktuur:	<ul style="list-style-type: none"> Administrasiegebou, Konstruksie-uitsakgebied, Interne vervoerbandstelsel om graan in die Weekgebou te vervoer, Versak- en chemiese bergingsgeboue, Brandpomp kamer, Wagkamer, Weegbrug, Vragmotor opstel area, Afval optel area, Interne toegangspaaie, Personeel parkering.



Figuur 2: Liggingskaart

WAT IS DIE POTENSIELE OMGEWINGSIMPACTE SE VERBAND MET DIE VOORGESTELDE PROJEEK?

'n Aantal potensieële omgewingsimpakte wat met die Projek verband hou, is geïdentifiseer. As deel van die OSIB en WGM studies sal hierdie potensieële impakte deur die volgende spesialisstudies beoordeel word:

Spesialis Studie	Organisasie
Luggehalte en Klimaatsverandering	Airshed Planning Professionals
Varswater	Scientific Aquatic Services
Geohidrologie en Hidrologie	GCS Water & Environmental Consultants
Erfenis & Paleontologie	PGS Heritage
Geraas	Enviro Acoustic Research
Sosio-ekonomies	Eco Thunder Consulting
Verkeer	Royal HaskoningDHV

WAAROM IS OMGEWINGSSTUDIES NODIG?

In terme van die OIB Regulasies Regeringskennisgewing Regulasie (GNR) 324 – 327, gepubliseer in terme van Artikel 24(5), en gelees met Artikel 44, van die Nasionale Omgewingsbestuurswet (NOBW) (Wet No. 107 van 1998), benodig Soufflet Malt South Africa 'n Omgewingsmagtiging van die Gauteng Departement van Landbou, Landelike Ontwikkeling en Omgewing (GDARDE) om die Projek uit te voer aangesien dit elektrisiteitsopwekking aktiwiteite insluit wat onder Lyste Kennisgewing 1 van die OIB Regulasies 2014 (soos gewysig) gelys word. Daarbenewens moet die Gauteng Provinsiale Omgewingsbestuursraamwerk (GPEMF) en Uitsluiting van Verwante Aktiwiteite van die Vereiste om 'n Omgewingsmagtiging te verkry (No. 164, 02 Maart 2018) ook oorweeg word aangesien die Projek binne Sone 5: Industriële en Komersiële Fokus Sone geleë is, waar sekere aktiwiteite uitgesluit is van die verkryging van 'n Omgewingsmagtiging, maar eerder 'n registrasie by die GDARDE vereis soos per die uitsluitingsstandaard voorgeskryf deur die GPEMF (GN No.164).

Die Projek moet ook voldoen aan die Internasionale Finansiële Korporasie (IFC) Prestasiestandaarde en Goeie Internasionale Besigheidspraktyke (GIBP).

Die volgende aktiwiteite van Lyste Kennisgewing 1 sal toegepas word:

Lyste Kennisgewing	Aktiwiteits-nummer	Beskrywing en Toepaslikheid
1 (GNR 327)	2	Die ontwikkeling en verwante bedryf van fasiliteite of infrastruktuur vir die opwekking van elektrisiteit uit 'n nie-hernubare hulpbron waar— i. die elektrisiteitsuitset meer as 10 megawatt maar minder as 20 megawatt is; of ii. die uitset 10 megawatt of minder is, maar die totale omvang van die fasiliteit 'n area van meer as 1 hektaar dek. <i>Toepaslik op die Gekombineerde Hitte en Krag opwekkingsstelsel (4MW) wat vloeibare aardgas (LNG) gebruik en rugsteunketels 2 x 6MW ketels wat LNG gebruik.</i>
	19	Die opvulling of afsetting van enige materiaal van meer as 10m ³ in, of die baggering, uitgraving, verwydering of verskuiwing van grond, sand, skulpe, skulpgroef, klipies of rots van meer as 10m ³ vanaf 'n waterloop. <i>Konstruksie of opgradering van infrastruktuur binne waterlope vir die ontslag in die Kliprivier (alternatiewe afvalwater wegdoeningsopsie).</i>

Aangesien Lyste Kennisgewing 1 aktiwiteite van die OIB Regulasies 2014 (soos gewysig) geaktiveer word, moet 'n Basiese Asseseringstudie soos beoog in Regulasie 19 en 20 van die OIB Regulasies 2014 (soos gewysig), gevolg word om Omgewingsmagtiging te verkry om aan die plaaslike regulatoriese vereistes te voldoen.

Volgens die GPEMF Uitsluitingsstandaarde, is aktiwiteite uitgesluit van die verkryging van 'n Omgewingsmagtiging soos per die OIB Regulasies, 2014 (soos gewysig), die aktiwiteite wat hieronder aangedui word, is uitgesluit en sal 'n registrasieproses volg soos voorgeskryf in die GPEMF (GN No.164).

Lyste Kennisgewing	Aktiwiteits-nummer	Beskrywing en Toepaslikheid
1 (GNR 327)	25	Die ontwikkeling en verwante bedryf van fasiliteite of infrastruktuur vir die behandeling van effluent, afvalwater of riool met 'n daaglikse deursetkapasiteit van meer as 2,000m ³ maar minder as 15,000m ³ .
	27	Die opruiming van 'n gebied van 1ha of meer, maar minder as 20ha van inheemse plantegroei, behalwe waar sodanige opruiming van inheemse plantegroei benodig word vir – i. die uitvoering van 'n lineêre aktiwiteit; of ii. onderhoudsdoeleindes wat uitgevoer word in ooreenstemming met 'n onderhoudsbestuursplan.
	28	Residensiële, gemengde, kleinhandel, kommersiële, industriële of institusionele ontwikkelings waar sodanige grond vir landbou, wildboerdery, perdeboerdery of bebossing gebruik is op of na 01 April 1998 en waar sodanige ontwikkeling: i. sal binne 'n stedelike gebied plaasvind, waar die totale grond wat ontwikkel moet word groter is as 5 ha; of ii. uitgesluit waar sodanige grond reeds vir residensiële, gemengde, kleinhandel, kommersiële, industriële of institusionele doeleindes ontwikkel is.
	56	Aktiwiteit 56 van LN1 - Die verbreding van 'n pad met meer as 6 m, of die verlenging van 'n pad met meer as 1 km — i. waar die bestaande reserwe wyer as 13.5 m is; of ii. waar geen reserwe bestaan nie, waar die bestaande pad wyer as 8 m is, uitgesluit waar verbreding of verlenging binne stedelike gebiede plaasvind.
2 (GNR 325)	4	Die ontwikkeling en verwante bedryf van fasiliteite of infrastruktuur, vir die berging, of berging en hantering van gevaarlike goed, waar sodanige berging in houers met 'n gesamentlike kapasiteit van meer as 500 m ³ plaasvind.

Boonop, aangesien die Projek verskeie waterverwante aktiwiteite behels, sal 'n WGM (Watergebruikmagtiging) ingevolge Afdelings 21 (a), (b), (c), (f), (g) en (i) van die Nasionale Waterwet (Wet No. 36 van 1998) (soos gewysig) by die Departement van Water en Sanitasie (DWS) ingedien word.

Die volgende watergebruike ingevolge Afdeling 21 van die NWA word aansoek gedoen vir:

- Afdeling 21 a: Neem water uit 'n waterbron (toepaslik vir boorgatontrekking);
- Afdeling 21 b: Stoor water (toepaslik vir die berging van drinkbare water in 'n tenk);
- Afdeling 21 c: Belemmer of herlei die vloei van water in 'n waterloop (toepaslik vir wateroorgange en/of infrastruktuur binne 500m van die gereguleerde vleilandgebied);

- Afdeling 21 f: Loos afval of water wat afval bevat in 'n waterbron (toepaslik vir die logging van behandelde afvalwater van die moutproses in die Kliprivier); en
- Afdeling 21 g: Wegdoen van afval op 'n manier wat die waterbron nadelig kan beïnvloed (toepaslik vir die berging van onbehandelde afvalwater van die moutproses in 'n tenk en wegdoen van afvalwater in 'n plaaslike afvalwaterbehandelingsaanleg (alternatiewe opsie).
- Afdeling 21 i: Verander van die bedding, oewers, loop of kenmerke van 'n waterloop (toepaslik vir wateroorgange en/of infrastruktuur binne 500m van die gereguleerde vleilandgebied).

Soufflet Malt South Africa het Royal HaskoningDHV aangestel om onafhanklike Omgewingsbeoordelingspraktisyn (EAP) dienste vir die voorgestelde Projek te verskaf. As deel van hierdie omgewingsstudies, sal alle B&GPs (belangstelende en geïmpakteerde partye) aktief betrokke wees deur die PD (publieke deelname) en belanghebbende betrokkenheidsprosesse.

BESKERMING VAN PERSOONLIKE INLIGTINGSWET, 2013 (Wet No. 14 van 2013) (POPIA)

Die doel van hierdie Wet is om —

1. Uitdrukking te gee aan die grondwetlike reg op privaatheid, deur persoonlike inligting te beskerm wanneer dit deur 'n verantwoordelike party verwerk word, onderworpe aan regverdigbare beperkings wat daarop gemik is om—
 - a. die reg op privaatheid teen ander regte te balanseer, veral die reg op toegang tot inligting; en
 - b. belangrike belange te beskerm, insluitend die vrye vloeï van inligting binne die Republiek en oor internasionale grense;
2. Die wyse te reguleer waarop persoonlike inligting verwerk mag word, deur voorwaardes te vestig, in harmonie met internasionale standaarde, wat die minimum drempelvereistes vir die regmatige verwerking van persoonlike inligting voorskryf;
3. Persone met regte en oplossings te voorsien om hul persoonlike inligting te beskerm teen verwerking wat nie in ooreenstemming met hierdie Wet is nie; en
4. Vrywillige en verpligte maatreëls te vestig, insluitend die instelling van 'n Inligtingsreguleerder, om respek vir bevordering, afdwinging en vervulling van die regte wat deur hierdie Wet beskerm word, te verseker.

POPIA en die OIB Regulasies, 2014 (soos gewysig)

Volgens Hoofstuk 6 van die OIB Regulasies, 2014 (soos gewysig), moet 'n Basiese Assessering (BA) studie, 'n Publieke Deelname (PD) en belanghebbende betrokkenheidsproses insluit. Die PD en belanghebbende betrokkenheidsprosesse is ontwerp om alle B&GPs in staat te stel om hul mening en/of bekommernisse uit te spreek, wat die EAP in staat stel om alle aspekte van die Projek te evalueer, met die doel om die Projek te verbeter deur die voordele daarvan te maksimeer terwyl die nadelige gevolge geminimaliseer word.

Volgens Artikel 42 van die OIB Regulasies, 2014 (soos gewysig), moet 'n EAP namens die Aansoeker (d.w.s. Soufflet Malt South Africa) verseker dat 'n register van B&GPs wat name, kontakbesonderhede en adresse bevat, geopen en in stand gehou word gedurende die studie. Bewys van die PD en belanghebbende betrokkenheidsproses (waarvan die B&GP databasis ingesluit is) word aan die betrokke Bevoegde Owerheid (BO) voorgelê om te verseker dat alle relevante B&GPs die reg gehad het om hul bekommernisse uit te spreek en dat hierdie bekommernisse gedokumenteer is in 'n Kommentaar- en Antwoordverslag sodat die BO in staat is om 'n ingeligte besluit oor die Projek te neem. Die persoonlike inligting wat deel vorm van die PD en belanghebbende betrokkenheidsproses sal slegs gebruik word om u op hoogte te hou van die vordering van die Projek en om u in te lig oor enige insette wat benodig word, soos besonderhede van die kommentaarperiode, beskikbaarheid van die verslae, vergaderings ens. asook kennisgewing van die besluit en daaropvolgende appèlperiode. Dit moet egter gesê word dat registrasie as 'n B&GP 'n vrywillige proses is, en indien 'n B&GP nie instem om op die B&GP databasis geregistreer te word nie, enige kommentaar wat ontvang word, nie opgeteken en gedeel kan word met die BO nie.

Die B&GP databasis sal ook gedeel word met die BO, en indien 'n appèl teen die Projek ingedien word, is die EAP en Aansoeker verplig om die B&GP databasis wat die persoonlike inligting bevat met die Appellant te deel ingevolge paragraaf 4(1) van die Nasionale Omgewingsbestuurswet: Appèlregulasies, 2014 (soos gewysig).

Die B&GP databasis sal ook gedeel word met die BO, en indien 'n appèl teen die Projek ingedien word, is die EAP en Aansoeker verplig om die B&GP databasis wat die persoonlike inligting bevat met die Appellant te deel ingevolge paragraaf 4(1) van die Nasionale Omgewingsbestuurswet: Appèlregulasies, 2014 (soos gewysig). -

1. Voldoen aan privaatheids- en databeskermingswetgewing en goeie praktyke volg;
2. Die regte van individue beskerm;
3. Oop is oor hoe dit individue se data stoor en verwerk; en
4. Persone beskerm teen die risiko's van 'n databreuk.

PUBLIKE DEELNAME & BELANGHEBBENDE BETROKKEHEIDSPROSES

Dit is belangrik dat relevante B&GPs geïdentifiseer en betrek word in die PD en belanghebbende betrokkeheidsproses van die begin af van die Projek. Om effektiewe PD en belanghebbende betrokkeheid te verseker, sluit die proses die volgende sleutelstappe in:

Stap 1 Skep bewustheid & kennisgewing – advertensie, BID, terreinkennisgewings

Stap 2 Registreer B&GPs en belanghebbendes in die databasis (deurlopend)

Stap 3 Konsultasie met en oordrag van inligting aan B&GPs en belanghebbendes

Stap 4 Nooi B&GPs uit om die ESIA (30-dae kommentaarperiode) en WUA (60-dae kommentaarperiode) te hersien en kommentaar daarop te lewer

Stap 5 Neem alle kommentare, kwessies en bekommernisse wat deur B&GPs geopper is op in die Kommentaar- en Antwoorder-verslag, wat 'n integrale deel van die ESIA sal vorm

Klagtes

'n Klagtemeganisme sal ingestel word om insette en die oplossing van die belange en klagtes van B&GPs oor die Projek te ontvang en te fasiliteer. Die klagteprosedures sal vanaf die begin van die OSIB-proses in plek wees en deurlopend tydens konstruksie en bedrywighede tot die einde van die projeklewenduur bestaan. Die klagtemeganisme streef daarna om insette vinnig op te los deur 'n robuuste en deursigtige konsultatiewe proses wat kultureel toepaslik is en maklik toeganklik is vir die betrokke partye.

HOE KAN JY BETROKKE RAAK?

Indien jy jouself beskou as 'n B&GP vir hierdie voorgestelde Projek, dring ons daarop aan dat jy betrokke raak.

- Deur te reageer (per telefoon of e-pos) op ons uitnodiging vir jou betrokkeheid in die proses;
- Deur die aangehegde kommentaarvorm volledig in te vul en dit te pos na Sibongile Gumbi by Royal HaskoningDHV;
- Skriftelik, deur die EAP te kontak indien jy 'n vraag, kommentaar, klagte het of verdere Projekinligting benodig; en
- Deur die konsultasie OSIB-verslag binne 'n 30-dae hersieningsperiode en die WGM-aansoek binne 'n 60-dae hersieningsperiode te hersien en kommentaar te lewer.

Jou insette in hierdie proses vorm 'n sleutelrol in die omgewingsstudie en ons wil graag van jou hoor om jou sienings oor die voorgestelde Projek te bekom.

Deur die aangehegde reaksievorm te voltooi en in te dien, registreer jy jouself outomaties as 'n B&GP vir hierdie Projek, en verseker dat jou kommentare, bekommernisse en/of vrae rakende die Projek genoteer sal word.

KOMMENTAAR EN VRAE OOR DIE PROJEK KAN GERIG WORD AAN

Sibongile Gumbi	Royal HaskoningDHV PO Box 867, Gallo Manor, 2052		 Royal HaskoningDHV Enhancing Society Together
	Tel	087 352 1506	
	E-pos	sibongile.gumbi@rhdhv.com	

OMGEWINGS- EN SOSIALE IMPAK ASSESSERING (OSIB) EN WATERGEBRUIKSMAGTIGING (WGM) PROSES
VIR DIE VOORGESTELDE ONTWIKKELING VAN 'N NUWE MOUT AANLEGGING IN DIE SEDIBENG
DISTRIKSMUNISIPALITEIT, GAUTENG PROVINSIE

(JUNIE 2024)

GDARDE REF: TBC

DWS REF: TBC

U KOMMENTARE EN VRAE IS WELKOM

Vul asseblief hierdie Kommentaarvorm **volledig** in en stuur terug aan:

Sibongile Gumbi	Royal HaskoningDHV		 Royal HaskoningDHV Enhancing Society Together
	PO Box 867, Gallo Manor, 2052, Johannesburg		
	Tel	087 352 1506	
	E-pos	sibongile.gumbi@rhdhv.com	

Titel (Prof/Mnr/Mev)		Voornaam	
Van			
Kapasiteit (bv. Sekretaris / Direkteur)			
Organisasie			
Posadres		Poskode	
Tel No. ()		Sel No.	
Faks No. ()		E-pos adres	

Watter kommentare/bekommernisse wil jy graag oor hierdie voorgestelde Projek uitbring? (Gebruik asseblief addisionele bladsye indien nodig)

REGISTREER ASB. DIE VOLGENDE PERSONE OP DIE PROJEK DATABASIS:

Titel (Prof/Mnr/Mev)		Voornaam	
Van			
Kapasiteit (bv. Sekretaris / Direkteur)			
Organisasie			
Pasadres		Poskode	
Tel No. ()		Sel No.	
Faks No. ()		E-pos adres	
Handtekening			

INDIEN JY VERKIES OM GEEN VERDERE INLIGTING OOR HIERDIE VOORGESTELDE PROJEK TE ONTVANG NIE, EN SOU JY VERKIES OM OP ENIGE TYD GEDURENDE DIE PROSES VAN DIE PROJEKDATABASIS VERWYDER TE WORD, KAN JY DIE OPENBARE DEELNEMINGSKONSULTANTE WAT IN DIE DOKUMENT GELYS WORD KONTAK (KONTAKBESONDERHEDE SOOS HIERBO AANGEDUI).

Project related

ANNEXURE C

Background Information Document

Sesotho

TEKOLO EA TŠEBELETSO EA TIKOLOHO LE SECHABA (ESIA) LE TUMELLO EA TSHEBELISO EA METSI (WUA), MOKHOA OA TŠEBELETSO EA NTSHETSOPELE E E NCHA EA MALTING MMASIPALENG OA SEDIBENG , POROFENSENG YA GAUTENG.

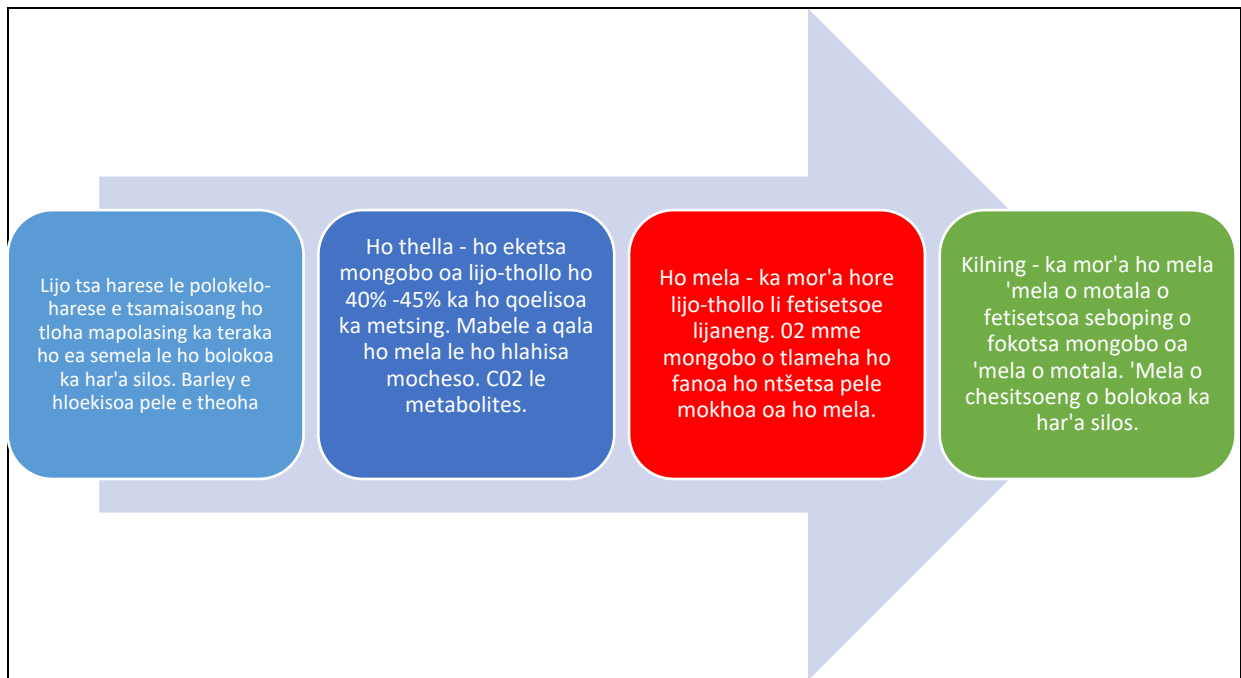
Soufflet Malt Aforika Borwa e kgethile Royal HaskoningDHV ho fana ka ditshebeletso tse ikemetseng tsa Tekolo ya Tikoloho (EAP) bakeng sa ntshetsopele e sisintsweng ya polante e ntjha ya malt ("Project"). Morero (26° 25' 48.60" S; 28° 04' 12.90" E) o ka boroa ho Heineken Sedibeng Brewery Seterekeng sa Sedibeng ka har'a Masepala oa Lehae oa Midvaal.



Setšoantšo sa 1: 'Mapa oa Sebaka

1. Ts'ebetso ea ho mela

Ts'ebetso ea malting e hlalositsoe ho **Setšoantšo sa 2** se ka tlase. 'Mela o chesitsoeng o romelloa Heineken Brewery ka mokhoa oa conveyor.



Setšoantšo sa 2: Tlhaloso ea Ts'ebetso

Morero “Project” e tlameha ho ikamahanya le Melawana ya EIA ya 2014 (jwalo ka ha e fetotswe) mme Soufflet Malt Afrika Borwa e hloka Tumello ya Tikoloho ho tswa ho Lefapha la Temothuo, Ntshetsopela ya Dibaka tsa Mahae le Tikoloho la Gauteng (GDARDE) bakeng sa ho etsa morero ona kaha e kenyeletsa mesebetsi ya ho fehla motlakase e thathamisitsweng tlasa Ditsebiso tsa Lenane. 1 ea Melaoana ea EIA 2014 (joalokaha e fetotsoe).

Mesebetsi e latelang ea Tsebiso ea Lethathamo 1 (GNR 327) e ea qala:

- **Ketsahalo ea 2** - bakeng sa Sistimi e Kopantsong ea Mocheso le Motlakase (4MW) e sebelisang khase ea tlhaho e nang le metsi (LNG) le liboiler tse bolokang 2 x 6MW tse sebelisang LNG.
- **Ketsahalo ea 19** - Kaho kapa ntlafatso ea meralo ea motheo ka har'a litselana tsa metsi, e sebetsang bakeng sa ho qhalloa ha litšila tse hloekisitsweng Nokeng ea Klip River (khetho e 'ngoe ea ho lahla metsi a litšila).

Kaha Tsebiso ea Lethathamo la 1 mesebetsi ea Melawana ea EIA 2014 (joalo ka ha e lokisitsoe) e qalisoa, boithuto ba Tlhalobelo ea Motheo joalo ka ha bo hlalositsoe ho Regulation 19 le 20 ea Melaoana ea EIA 2014 (joalo ka ha e lokisitsoe), e tlameha ho lateloa molemong oa ho fumana Tumello ea Tikoloho molemong oa ho khotsofatsa lithoko tsa taolo ea lehae.

Morero hape o tlameha ho ikamahanya le Maemo a Ts'ebetso a IFC le Mekhoa e Metle ea Indasteri ea Machabeng (GIIP) ka mantsoe a IFC a sebelisoang joalo ka Tekolo ea Phello ea Tikoloho le Sechaba (ESIA) le Leano la Taolo ea Tikoloho le Sechaba (ESMP).

Morero o boetse o kenyelletsa mesebetsi e mengata e amanang le metsi, kahoo kopo ea Tumello ea Tšebeliso ea Metsi e tla romelloa Lefapheng la Metsi le Tsamaiso ea likhoerekhoere (DWS) ho latela **Karolo ea 21 (a), (b), (c), (f) (g).) le (i)** ea Molao oa Naha oa Metsi (Molao oa 36 oa 1998) (joalokaha o fetotsoe).

2. Litšusumetso tsa Tikoloho

Lits'enyehelo tse 'maloa tse ka bang teng tikolohong tse amanang le Morero li se li hlokometsoe. E le karolo ea Tekolo ea Liphello tsa Sechaba le Lithuto tsa Tumello ea Tšebeliso ea Metsi, litlamorao tsena tse ka bang teng li tla hlalohoa ka liphuputso tse latelang tsa litsebi:

Thuto ea Litsebi	Mokhatlo
Boleng ba Moea le Phetoho ea Boemo ba Leholimo	Airshed Planning Professionals
Metsi a hloekileng	Scientific Aquatic Services
Geohydrology le Hydrology	GCS Water & Environmental Consultants
Heritage & Palaeontology	PGS Heritage
Lerata	Enviro Acoustic Research
Tsa bophelo le moruo	Eco Thunder Consulting
Sephethephethe	Royal HaskoningDHV

3. Seabo sa Sechaba le Puisano ea Bankakarolo

Ho bohlokoa hore mekha e amehang e nang le Thahasello (I&APs) e khethoe le ho kenya letsoho tšebetsoeng ea ho kenya letsoho ha sechaba ho tloha qalong ea Morero. Ho netefatsa bonkakarolo bo atlehileng ba setjhaba le ho ba le seabo, tshebetso e kenyeletsa mehato e latelang ya bohlokwa:



Setšoantšo sa 3: Ts'ebetso ea Phatlalatso ea Sechaba le Ts'ebetso ea Kopanelo ea Batšehetsi

4. Litletlebo

Ho tla theoa mokhoa oa litletlebo ho amohela le ho thusa ho rarolla mathata le litletlebo tsa I&AP mabapi le Morero. Mekhoa ea litletlebo e tla ba teng ho tloha qalong ea ts'ebetso ea ESIA 'me e tla ba teng nakong eohle ea kaho le ts'ebetso ho fihlela qetellong ea bophelo ba morero. Mokhoa oa litletlebo o batla ho rarolla mathata ka potlako ka ho sebelisa mokhoa o matla le o pepeneneng oa therisano o loketseng moetlo le ho fihleleha habonolo ho ba amehang.

5. Lintlha tsa Khokahano

Haeba u inka u le I&AP bakeng sa Morero ona o reriloeng, re u khothaletsa ho nka karolo.

- Ka ho araba (ka mohala kapa lengolo-tsoibila) memong ea rona bakeng sa ho kenya letsoho ha hau ts'ebetsong;
- Ka ho tlatsa foromo ea maikutlo e khomaretsoeng le ho e romela ho Sibongile Gumbi ho Royal HaskoningDHV;
- Ka ho ngola, ho iteanya le EAP haeba o na le potso, maikutlo kapa o hloka tlhaiso-leseling e eketsehileng ea Morero; le
- Ka ho hlaloha le ho fana ka maikutlo mabapi le Tlaleho ea ESIA ea lipuisano nakong ea tlhahlobo ea matsatsi a 30 le Kopo ea WUA nakong ea tlhahlobo ea matsatsi a 60.

Maikutlo a hau tšebetsong ena ke karolo ea bohlokoa ea thuto ea tikoloho, 'me re lakatsa ho utloa ho tsoa ho uena ho fumana maikutlo a hau mabapi le Morero o sisintsoeng.

Ka ho tlatsa le ho fana ka foromo e tsamaeang le karabo, u ingolisa ka bouena u le I&AP bakeng sa Morero ona, 'me u etsa bonnete ba hore maikutlo, matšoenyeho le/kapa lipotso tse hlalositsoeng mabapi le Morero li tla hlokomeloa.

DIKGELO LE DIPOTSO KA MORERO O KA LEBISWA HO

Sibongile Gumbi	Royal HaskoningDHV PO Box 867, Gallo Manor, 2052		 <p>Royal HaskoningDHV <i>Enhancing Society Together</i></p>
	Mohala	087 352 1506	
	Email	sibongile.gumbi@rhdhv.com	

Project related

ANNEXURE D

Advert

Project related

ANNEXURE E

Comments and Responses Report

COMMENTS AND RESPONSE REPORT

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND
WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED
DEVELOPMENT OF A NEW MALTING PLANT IN SEDIBENG DISTRICT
MUNICIPALITY, GAUTENG PROVINCE

JUNE – OCTOBER 2024



RAISED BY	ISSUE/COMMENT	RESPONSE
16 May 2024 Survey Correspondence XXXXXXXXXX I&AP	I support the project because of the prospective employment opportunities.	EAP: The support for the project is acknowledged especially with regards to potential employment opportunities.
16 May 2024 Survey Correspondence XXXXXXXXXX I&AP	<ol style="list-style-type: none"> 1. Smell is a concern with regards to the processes that will take place at a maltery. 2. Idea is neither good or bad. I believe job creation is great. A green belt should be considered and a proper impact study on the environment considering fauna and flora. 	Air Quality Specialist: <ol style="list-style-type: none"> 1. Odourous compounds is unlikely to be emitted as this is a germination process and not a fermentation process and no chemicals are used in the process. It is likely that odour may emanate from the wastewater treatment facility (WWTP) but this will be addressed appropriately. Increased odour impacts are possible at receptors located towards the south and south-west of the plant. It is recommended that an odour complaints register be kept, and all complaints received noted, investigated and corrective action taken, where appropriate. Any corrective action taken should be noted in the register. 2. An Environmental and Social Impact Assessment (ESIA) is being undertaken for the Project. With regards to a green belt, note that the Project is situated within Zone 5 (Industrial and Large Commercial Focus) of the Gauteng Province Environmental Management Framework (GPEMF) and not within a Critical Biodiversity Area, and heavily

RAISED BY	ISSUE/COMMENT	RESPONSE
		transformed. According to the DFFE Screening Tool, the Terrestrial Biodiversity and Plants Species theme is indicated as Low sensitivity due to the transformed nature of the site and the Animal theme is Moderate due to the presence of the spotted-necked otter.
16 May 2024 Survey Correspondence _____ _____ I&AP	Complimentary industries are very good idea, especially when looking at carbon footprint.	EAP: The Graceview Industrial Park has been selected as the best location for the malting plant as it is within a site that has been zoned as “Industrial 1” and falls within an area earmarked for “industrial/commercial” purposes according to the Midvaal Spatial Development Framework 2024/2025.
16 May 2024 Survey Correspondence _____ I&AP	<ol style="list-style-type: none"> 1. There is already a water, light and sound pollution issue from Heineken and Kliprivier Business Park. 2. Plus, there are a lot of small animals who live on that land who will again be displaced. 3. There is already a water pollution issue from Heineken. 4. There is not sufficient road infrastructure for the existing businesses at Kliprivier Business Park, adding in another big factory will seriously impact that. 5. Also, this will bring in more outside people and will increase the crime rate in the area. 	Engineering Team and Noise Specialist: 1. Pollution: Water pollution – We cannot comment on Heineken’s operations. The effluent stemming from the malt facility (this Project) is as a result of barley and water interacting under different temperatures. The process occurs naturally and without any chemical additives, as such the effluent is wholly organic in nature. The plant further endeavors to responsibly discharge any effluent via the correct pathways to fully comply with its legislative obligations as well as Soufflet’s commitment to the environment.

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		<p>Light pollution – The Engineering Team will ensure that the lighting designs for the new malt plant will include but is not limited to ensuring that all external lights are:</p> <ul style="list-style-type: none"> ▪ Angled/directed to only the areas that they are meant to illuminate. ▪ Are not angled/directed upwards to the open sky. ▪ Are not directed to adjacent properties or public areas. ▪ Are designed to the correct lux levels based on the area they illuminate. ▪ To the correct specification based on the area they illuminate. <p>Sound pollution - the Environmental Noise Impact Assessment recommends the following in terms of noise levels, which will be incorporated into the Environmental and Social Management Plan (ESMP):</p> <ul style="list-style-type: none"> ▪ 55 dBA (as recommended by the IFC) for daytime residential use; and ▪ 45 dBA (as recommended by the IFC) for night-time residential use. ▪ The plant should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period, and 60 dBA at night for a 70 dBA day-night noise limit).

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		<ul style="list-style-type: none"> ▪ At all stages, surrounding receptors should be informed about the Project, providing them with factual information without setting unrealistic expectations. ▪ The Project Applicant must implement a line of communication (i.e., a help line where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers. The plant should maintain a commitment to the local community (people staying within 1,000m from construction or operational activities) and respond to noise concerns in an expedient fashion. ▪ The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the processing plant. <p>EAP:</p> <ol style="list-style-type: none"> 2. The vegetation within the study area is predominantly herbaceous, and support species typically associated with secondary/disturbed grassland. From historical satellite imagery, it is apparent that the entire site was previously disturbed by mowing for the production of livestock fodder. Within the greater investigation area, the vegetation is also indicative of previous disturbance.

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		<p>The Department of Forestry, Fisheries and Environment (DFFE) Screening Tool has indicated that a small portion of the western section of the site as medium sensitivity due to the possible presence of Mammalia - <i>Hydriectis maculicollis</i> (spotted-necked otter) with the majority of the site has been classified as a Low sensitivity. The project is located in an urban area within the Graceview Industrial Park and the likeliness of the <i>Hydriectis maculicollis</i> being present on site is considered unlikely due to the transformed nature of the site and with the closest riparian habitat located approximately ~1 km away from the site separated by an access road bordering the Kliprivier Business Park and Graceview Industrial Park. The Project is within Zone 5 (Industrial and Large Commercial Focus) of the Gauteng Province Environmental Management Framework (GPEMF) and not within a Critical Biodiversity Area, and heavily transformed.</p> <p>Engineering Team:</p> <p>3. We cannot comment on Heineken’s operations. The effluent stemming from the malt facility (this Project) is as a result of barley and water interacting under different temperatures. The process occurs naturally and without any chemical additives, as such the</p>

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		<p>effluent is wholly organic in nature. The plant further endeavors to responsibly discharge any effluent via the correct pathways to fully comply with its legislative obligations as well as Soufflet's commitment to the environment.</p> <p>Traffic Impact Specialist:</p> <p>4. The Traffic Impact Assessment indicated the following:</p> <ul style="list-style-type: none"> ▪ It is expected that the development will generate an additional 50 vehicles per hour in both weekdays AM and PM peak periods on the surrounding road network. ▪ The analysis indicates that all the intersections are currently operating at acceptable levels of service – LOS (A) in the 2024 scenario. This correlates with the visual observation. ▪ The AM peak and PM peak scenarios for the future traffic in 2029 without development have been analysed. The results indicate that all three intersections will continue to operate at an acceptable LOS. Therefore, additional measures are not necessary to improve traffic conditions at these intersections.

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		<ul style="list-style-type: none"> ▪ There is no intersection upgrade required to improve the performance of the network near the site. However, all roads anticipated to provide access to the proposed development, should be paved to improve accessibility (3.0 - 5.5m roadway (two way)). ▪ The proposed Project will be constructed within the Graceview Industrial Park, which will still be developed with other industries in future. <p>Social Specialist:</p> <p>5. The Socio-economic Impact Assessment conducted for the project recommends the following measures to be implemented for the Project and will be incorporated into the ESMP:</p> <ul style="list-style-type: none"> ▪ A Community Liaison Officer should be appointed. ▪ The communities which are most in need of employment on a local level should be considered for employment before outsourcing. ▪ Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period.

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		<ul style="list-style-type: none"> ▪ Access in and out of the construction area should be strictly controlled. ▪ Prioritising local hiring to reduce the influx of external job seekers and support community development. ▪ Implementing training programs for local residents to enhance employability in the project, thereby reducing reliance on external semi-skilled and unskilled labour. ▪ A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.
<p>16 May 2024 Survey Correspondence Ruben Lourenco I&AP</p>	<p>1. All the trucks that cause congestion, pollution and uneasiness for motorists and pedestrians. Development pressure in areas that until relatively recently were being farmed.</p> <p>2. More people will move into the informal settlements at Piels and surrounds in the hope of getting a job (I can guess that a minimal number of long term jobs will be created). More residents mean potentially more crime and a corresponding decrease in property values. I anticipate that more people will move into the informal settlement and this will increase the pressure</p>	<p>EAP:</p> <p>1. Traffic management measures will be included in the ESMP. A Traffic Management Method Statement/Plan must be compiled by the Contractor to manage congestion, pollution and safety for motorists and pedestrians.</p> <p>Social Specialist:</p> <p>2. The Socio-economic Impact Assessment conducted for the project recommends the following measures to be implemented for the Project and will be incorporated into the ESMP:</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>on the finite facilities and lead to increased levels of crime, etc.</p> <p>3. It feels like this is a foregone conclusion that the project will go ahead irrespective of any comments.</p>	<ul style="list-style-type: none"> ▪ A Community Liaison Officer should be appointed. ▪ The communities which are most in need of employment on a local level should be considered for employment before outsourcing. ▪ Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. ▪ Access in and out of the construction area should be strictly controlled. ▪ Prioritising local hiring to reduce the influx of external job seekers and support community development. ▪ Implementing training programs for local residents to enhance employability in the project, thereby reducing reliance on external semi-skilled and unskilled labour. ▪ A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. <p>EAP:</p> <p>3. The objective of the Environmental and Social Impact Assessment (ESIA) is to consider the positive and negative impacts of the proposed Project as well as</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
		<p>comments and issues raised by Interested and Affected Parties (I&APs) and rating these impacts in terms of their probability, duration, scale and magnitude resulting in significance before and after mitigation and presenting these results in a transparent and objective manner that will allow the Competent Authority to make a decision on the Project. Therefore, approval of the Project is not a foregone conclusion.</p>
<p>16 May 2024 Survey Correspondence [Redacted] I&AP</p>	<p>Creating more jobs.</p>	<p>EAP: The potential for the Project to create employment opportunities are noted.</p>
<p>16 May 2024 Survey Correspondence [Redacted] I&AP</p>	<p>Grain that’s malted locally is good for the community, the environment, and the economy. Needless to say, local malt makes beer taste better as well.</p>	<p>EAP: Your comment is acknowledged, and it should be noted that the Project greatly contributes as an import substitution and for the enhancement of barley production for the agricultural sector in South Africa.</p>
<p>16 May and 24 June 2024 Lee and Kobus [Redacted] [Redacted] Correspondence [Redacted] I&AP</p>	<ol style="list-style-type: none"> 1. The environmental impact of burst pipelines/dischARGE from local business over lands into river courses and obnoxious odours within the community of the greater Klipriver region. 2. The current climate is that there have been past issues where burst pipelines occurred in the area where the community reported to local authorities and businesses involved. Lack of responsibility was an 	<p>EAP and Engineering Team and Applicant:</p> <ol style="list-style-type: none"> 1. Our Project is a greenfield development and is in the design phase and as such, existing industries, may be responsible for the burst pipeline/dischARGE. Upon further correspondence (27 June 2024) with you regarding the matter, the spatial location and date, it was indicated that the incident occurred in 2021 and you raised the matter with the Midvaal Municipality,

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>issue where none of the entities involved took initial charge causing the environment to suffer along with the residents in its path. Currently there are outstanding environmental concerns being investigated from 2021. The community and environment are the ones suffering due to the lack of responsibility and action.</p> <p>3. Negative impact on the area, animal and aquatic life and human health and lifestyle including: burst pipelines; burst wall dams; discharging effluent over land into furrows into rivers; overflowing pump houses causing the Klip River to receive effluent from the overflow; obnoxious and offensive smells from local businesses (hop/sewerage/grains); excessive pest issues due to effluent releases and burst pipelines; eco-systems being negatively impacted; health concerns for the residents in the area; endangerment to animal life; ozone and odour pollution; reduced property values; direct impact on tourism businesses; underground; water concerns due to effluent release into fields, rivers and burst pipes.</p> <p>4. Lack of responsibility when impact occurs.</p> <p>5. Loadshedding impact on ERWAT and pump stations have caused breakdowns and overloading causing overflowing and effluent release over lands in</p>	<p>ERWAT and Heineken, however no response was provided.</p> <p>2. The Midvaal Municipality is responsible for the maintenance of existing infrastructure i.e. pipelines and pump station. It is therefore recommended that via the Ward Councilor, a meeting is held with the Midvaal Municipality to raise existing/current issues.</p> <p>3. As mentioned in Point 1 above, the malting plant is a greenfield development and impacts such as burst wall dams; pipelines, discharging effluent over land into furrows; overflowing pump houses causing the Klip River to receive effluent from the overflow; obnoxious and offensive smells from local businesses (hop/sewerage/grains) appear to be associated with the current operations of the businesses in the area as well as Midvaal and ERWAT. Discharge into any watercourse, will be subject to approvals from the relevant authorities.</p> <p>It should also be mentioned that the proposed Project is within Zone 5 (Industrial and Commercial Focus) of the GPEMF, and the proposed malt plant falls within the demarcated Urban Development Boundary and earmarked for “Industrial/Commercial” purposes according to the Midvaal Spatial Development Framework 2024/2025.</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>proximity to residential property and rivers being affected.</p> <p>6. ERWAT Design & Maintenance capacity for additional discharge (Burst Wall February 2024) current overload concerns. Recent failure of the retaining walls along the ponds (structural issue).</p> <p>7. Discharge of black water into the Klip River and across lands not far from residents and boreholes/dams.</p> <p>8. The pipe burst has occurred on the line from the Pump Station in Joan Road to ERWAT on numerous times. The “fatal” incident where it affected our spring lake occurred in January 2021, the matter is currently still being investigated. The matter was reported to the relevant authorities on the 4 January 2021.</p> <p>When the incident occurred, there was a delay in repairing the fix and when it was eventually repaired the pipe broke in the same place. It was not the first time that the pipe burst. The secondary issues when the pipe bursts is that effluent continues being discharged to the pump station where it will eventually overflow at the pump house and expel into the Klip River which is an environmental catastrophe. A third issue was with extensive load shedding periods when the pump stations generator was not operational rendering the pump house ineffective and failing in</p>	<p>4. The various mechanisms of reporting incidents and complaints with the surrounding businesses, Midvaal and ERWAT need to be pursued further and appropriate investigations and the results thereof need to be shared with yourself as the Complainant. The Ward Councilor may be able to assist further. A grievance mechanism will be established for <u>this</u> Project (new malt plant) to receive and facilitate resolution of I&AP concerns and grievances about this specific Project. The proposed Project cannot respond on behalf of ERWAT. It is recommended that the concerns are referred directly to ERWAT to respond to.</p> <p>5. Loadshedding is a nation-wide problem. It is recommended that contact is made with ERWAT to determine what plans are in place if and when loadshedding occurs.</p> <p>6. The source of the “black water” is unknown and not related to this Project.</p> <p>7. Our Project is a greenfield development and is in the design phase and as such, existing industries, may be responsible for the burst pipeline/discharge. Upon further correspondence with you regarding the matter regarding the location (GPS coordinates) and date of the burst pipeline and incidents recorded, it was indicated that the incident occurred in 2021 and you</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>operations causing spillage over the lands into the Klip River.</p> <p>As explained, we have had to deal as residents with foul smells polluting the air, pests breeding in contaminated water and our water being compromised on our property as well as the Klip River. I have done extensive reports on this matter. My own business and property have been negatively affected to the point that is undesirable to sell due to the odour emanating from the pump house when spillages occur as well as when there are no spillages a foul smell at times occurs and is incredibly offensive. We further have to deal with offensive odours from ERWAT caused by spillages, breakdowns, pipes being stolen causing sludge spillage, not able to rehabilitate area due to location of spills (vlei area) plus there is concern that the plant needs an upgrade to increase its capacity so perhaps this should occur first before any new developers tap into this already strained plant.</p> <p>9. I have quite a few incidents on video however due to file size they are too large to send. The images attached indicate the site of burst pipe and the proximity of the pumpstation to the burst pipe and river.</p>	<p>raised the matter with the Midvaal Municipality, ERWAT and Heineken, however no response was provided. It is recommended that further discussions are held with the responsible parties to obtain closure on the matter.</p> <p>8. It is recommended that further discussions are held with the responsible parties i.e. Midvaal, ERWAT, surrounding businesses, to raise existing and new issues and obtain closure on the matter.</p> <p>9. The photos provided of the incident that occurred in 2021 have been received. It was also indicated that the matter was reported in 2021 when the incident occurred by residents in the area. The local authorities were notified via email and Whatsapp groups and telephonically. Unfortunately, the EAP is not in a position to respond on behalf of the local authorities in this regard.</p>
<p>10 July 2024 Kameshree Reddy</p>	<p>1. Project location</p>	<p>EAP & Engineering Team: 1. The Project location is correct as stated.</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
<p>Letter Correspondence Midvaal Local Municipality Assistant Director: Land Use</p>	<p>1.1 Remaining Extent of Erf 244 Graceview Extension 3 Township.</p> <p>2. Zoning of the properties as per Midvaal Land Use Scheme, 2023.</p> <p>2.1 The property is zoned “Industrial 1” with an annexure for Commercial uses, place of refreshment of own employees only and with the written consent of the local authority such as retail trade and industries which subordinate and related to the main commercial use and Agricultural Industry for a malting plant.</p> <p>3. Midvaal Spatial Development Framework 2024/2025.</p> <p>3.1 In terms of the above-mentioned policy, the subject properties fall within the demarcated Urban Development Boundary and are earmarked for “Industrial/Commercial” purposes.</p> <p>4. R59 Corridor Strategic Development Plan, 2011</p> <p>4.1 In terms of the above-mentioned policy, the subject area is earmarked as Existing Industrial” whereby “Industrial/Commercial” land uses are permitted.</p> <p>5. Dolomite</p> <p>5.1 The properties are affected by dolomite and thus will be subject to a dolomite stability report prior to building plan approval in line</p>	<p>2. The property zoning as “Industrial 1” is confirmed in the zoning certificates dated 26 May 2021 (REF 15/2-MLUS81) and 05 Jul 2024 (REF 15/1/6) received for the Project from the Midvaal Municipality.</p> <p>3. Noted that in terms of the Midvaal Spatial Development Framework 2024/2025 that the properties fall within the demarcated Urban Development Boundary and are earmarked for “Industrial/Commercial” purposes.</p> <p>4. Noted that in terms of the R59 Corridor Strategic Development Plan, 2011 the subject area is earmarked as Existing Industrial” whereby “Industrial/Commercial” land uses are permitted.</p> <p>5. A Dolomite Stability Report will be submitted to the Midvaal Municipality prior to building plan approval in line with the provisions of Clause 20 of the Midvaal Land Use Scheme, 2023. Portions of the site is classified as dolomite D4 area designation, as such a Competence Level 4 [L4 Geo-professional] will be included in the team.</p> <p>6. Future K-routes i.e. K77 and a Class 3 road are planned in the vicinity of the Project. The Route Determination Reports have been requested from the Gauteng Department of Roads and Transport to determine the impact on these future planned routes.</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>with the provisions of Clause 20 of the Midvaal Land Use Scheme, 2023.</p> <p>6. Provincial Roads 6.1 The application properties are affected by existing Gautrans routes.</p> <p>7. Land Use Section 7.1 The proposed Malting Plant can be accommodated as a primary right on the portion zoned "Industrial 1" and no land use application is required subject to the following:</p> <ul style="list-style-type: none"> - Site Development Plan being submitted for consideration. - Building Plans being submitted for consideration. 	<p>7. We are in the process of compilation of the documents required for the Site Development Plan and Building Plans and will be submitted to Midvaal prior to construction.</p>
<p>12 July 2024 Email Correspondence XXXXXXXXXXXXXXXXXXXX Midvaal Local Municipality</p>	<p>(Thanks) for including Midvaal in the distribution list. I am pleased to see that various specialists have been appointed to further investigate the potential environmental impact.</p> <p>1. One of our biggest concerns is the impact of ground water extraction in an area underlain by dolomite, especially with areas denoted as D3 and D4 in close proximity to the proposed plant.</p> <p>2. Please note that Midvaal has a height restriction on any structures built within the Midvaal area of jurisdiction. This also applies to the height of future silos for storage.</p>	<p>Geohydrologist:</p> <p>1. The Geohydrological Assessment has modelled the potential aquifer drawdown of the compartment from which the proposed abstraction will take place, as well other abstractions from the compartment and evaluated the cumulative impact. Indications based on the information at the time of study and based on the models and the proposed volumes, the impact is considered marginal. No cumulative impact is anticipated on the dolomite compartment from which water will be drawn, due to the low volumes proposed. The Geohydrological Assessment does not foresee</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>3. The officials from Midvaal will solicit comments from all internal departments and submit a consolidated response obo MLM.</p>	<p>any major impacts associated with the proposed dewatering/abstraction activity.</p> <p>Engineering Team:</p> <p>2. One building will be affected by this condition and an application will be made to increase the height.</p> <p>EAP:</p> <p>3. The EAP would greatly appreciate the comments to be provided during the 30-day review period of the draft ESIA Report in order for these comments to be integrated into the said report.</p>
<p>25 July 2024</p> <p>Letter Correspondence</p> <p>Midvaal</p> <p>ATNS</p>	<p>1. The proposed Sedibeng Soufflet Malting SA is in close proximity to Tedderfield Air Park and Panorama aerodromes.</p> <p>2. ATNS does not oppose the establishment of the proposed Sedibeng Soufflet Malting SA, however this does not serve as an approval/no objection letter, the applicant still needs to apply for a detailed obstacle assessment in order to obtain a letter of objection /no objection from ATNS and a conditional Approval from the South African Civil Aviation Authority.</p> <p>3. Please contact obtacles@atns.co.za for a detailed Obstacle Assessment application.</p>	<p>EAP:</p> <p>1. The confirmation of the project in proximity of Tedderfield Air Park and Panorama aerodromes is acknowledged.</p> <p>Engineering Team:</p> <p>2. Detailed obstacle assessment & Conditional Approval will be considered for the project.</p> <p>3. The Obstacles Assessment Department will be consulted.</p>
<p>11 September 2024</p>	<p>1. Heineken Sedibeng Brewery was supposed to acquire an Atmospheric Emission License (AEL) prior to this</p>	<p>Air Quality Specialist, EAP and Engineering Team:</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
<p>Focus Group Meeting</p> <p>Michael Nkomo</p> <p>&</p> <p>Ravhudzanyi Ncoana</p> <p>Sedibeng District Municipality</p>	<p>process and are currently in discussions with Heineken regarding this. Sedibeng District Municipality will provide written comments before the 17th of September 2024</p> <p>2. In terms of air quality, the focus is not only on smoke and pollution but also on volatile organic compounds (VOCs) emitted through the production process as the VOCs are also a source of pollution as they represent a nuisance.</p> <p>3. Enquiry about the role of the baghouses in the production process as it is generally used to contain pollutants prior to being emitted and what other point sources are within the plant.</p> <p>4. Enquiry about the size of the pellet that will be used for animal feed, and if are there any additional carcass for the animal feed.</p> <p>5. Enquiry about the role of kilning in the production process.</p> <p>6. Enquiry about the mitigation measures to control odours and VOCs as this common in similar projects that the odour is a significant issue.</p> <p>7. Enquiry whether the conveyor belts that will be distributing the malt to Heineken Brewery will be covered and if gas will be used to generate electricity.</p> <p>8. There are two proposed 6MW boilers mentioned in the report, there is currently a review of the Section 23</p>	<p>1. Noted that there is some confusion and stated that this Project i.e. new malt plant will be owned and operated by Soufflet Malt South Africa and not Heineken which are two separate entities. The malt plant will be providing malt to Heineken for beer production but is a completely separate project.</p> <p>2. The malting production process involves adjusting the moisture content and temperature of the barley to produce malt and there is no addition of any other chemicals and in terms of air quality there would be minimal impacts. The emission of VOCs will be low as the malting production process is a closed system. Air Quality Report that was conducted for this project has been provided and should further discussion be required then this can be arranged.</p> <p>3. The baghouses within the context of this Project will be for the barley intake and storage which will remove any dust from the barley received that might block machine and prevent creating potentially explosion prone conditions. There is no traditional baghouse for this project but the closest would be the barley intake building. Barley will be trucked to the plant where it will be emptied into a storage vessel where it will then be sorted and injected into the process as and when needed, a closed conveyor system will be used to transfer the grain from one step of the process to the</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>Controlled Emitter permit, where boilers have to be registered, currently Sedibeng does not have Air Quality By-laws, these are currently being drafted and will be submitted for approval. This will also need to be considered in the absence of the District By-laws, they will also have a look at the MLM By-laws and advise.</p> <p>9. The final timelines are not known yet.</p>	<p>next. The dust and by-product of the malt is mixed to create a pellet that can be used for animal feed.</p> <p>4. There will be no carcasses as the by-product is a combination of dust and the rootlet from the germination step to produce animal feed. The material that will be used for the pellets is the by-product of the malting process and no additional chemicals or substances will be added. Odour may be generated from the on-site Wastewater equalization tank, but the wastewater is only contained for a short period of time as there is a direct connection to ERWAT where the wastewater will be discharged to the off-site ERWAT WWTW.</p> <p>5. The role of kilning is to dry and reduce the moisture content of the barley at a peak temperature of 80-85°C and this process is contained to re-circulate the heat generated. The heated air will be contained between the kiln and the energy building and recirculated so as to not lose any of the heat generated, i.e. the heated air will be conveyed via pipes to the kilns and then will be recirculated back into the heat pumps and exchangers, hence this process is designed to be a closed system.</p> <p>6. The malting process is different from brewing process. In the malting process there is no fermentation or maceration of the grain and cannot be compared to</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
		<p>the brewing process. Additional mechanisms can be considered to determine what mitigations can be used to lessen the emission of VOC's and odours and if feasible will be included as part of the final ESIA. An Air Quality Specialist will be engaged on the possible mitigation measures that can be implemented and the ESMP will be updated to include the comments on the feasible mitigation measures before submitting the Final ESMP to GDARDE.</p> <p>7. The CHP will be fed by gas, the gas will run the turbines to generate power. The cooling system of the CHP will be circulated to heat the water that's needed for the production process. Boilers are used to maximise the temperature of the water to 105°C, these boilers will be used as back up and will be fuelled by LNG as well.</p> <p>8. Enquiry about the timelines of the by-laws that Sedibeng District Municipality (SDM) is developing.</p> <p>9. The response was noted, and the Project will comply when required.</p>
<p>11 September 2024</p> <p>FGM</p> <p>XXXXXXXXXX</p>	<p>1. Comments from Midvaal Town Planning Department were submitted on 10 July 2024 and no further will be provided in this meeting. Not certain if other Departments will be providing comments.</p>	<p>EAP:</p> <p>The comment was noted, and necessary follow ups will be done with other Departments.</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
<p>Midvaal Local Municipality</p> <p>16 September 2024</p> <p>Gauteng Department of Agriculture, Rural Development and Environment.</p>	<p>1. Specialist studies</p> <p>1.1. All specialists' reports submitted are noted and must form part of the final Basic Assessment Report. Furthermore,</p> <ul style="list-style-type: none"> a) Dolomitic Stability Investigation must be undertaken by a suitable qualified specialist and form part of the final Basic Assessment and comments from Geo-science must be sourced. b) Stormwater Management Plan must be included in the final Basic Assessment and a letter of approval of the stormwater management plan must be included in the final Basic Assessment. c) Traffic Impact Study must be forwarded to Midvaal local Municipality Department of Roads and Transport for approval and form part of the final Basic Assessment Report. <p>2. Impacts Identification, Assessment and Mitigation</p> <p>2.1. Identification of impacts and the proposed impact assessment methodology provided is supported as this will lead to a reliable conclusion that the mitigation measures will reduce impacts.</p>	<p>EAP:</p> <p>1. Specialist studies</p> <p>1.1. Specialist's reports which formed part of the draft Basic Assessment Report have been attached in Appendix G of the Final Basic Assessment/ESIA Report.</p> <ul style="list-style-type: none"> a) The Geotechnical and Dolomitic Stability Investigation Report as well as comments from the Council of Geoscience are attached in Appendix G11 of the Final Basic Assessment/ESIA Report. b) The Stormwater Management Plan and the Traffic Impact Study has been forwarded to the Midvaal Local Municipality for comment, but the approval forms part of the building approval process which is a separate process to the Basic Assessment/ESIA process. Thus, we have provided the correspondence from the Midvaal Local Municipality attached as Appendix G12. <p>2.1 The comment is noted. The Project developer will ensure that the environmental impacts are minimised during the life-cycle of the Project.</p>

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	<p>3. Assessment of Alternatives 3.1. Only one Site Alternative was considered for the proposed development. This consideration is a result of the site for the Project is within the Graceview Business Park, which is strategically located next to the Heineken Sedibeng Brewery. The malt will be transported via conveyor to the brewery. The Design/Layout Alternatives on page 12 of the Draft BAR is noted and should be included in the Final Basic Assessment Report.</p> <p>4. Need and Desirability of the Development 4.1. The project aims to alleviate unemployment by providing opportunities for the surrounding communities through direct employment opportunities during the construction phase for skilled and unskilled laborers (-265 people) as well as indirect opportunities for suppliers of machinery and equipment for the plant. The need and desirability of the development outlined in the report is noted, and it must form part of the final report.</p> <p>5. Maps, Layout Plan Services Route Positioning 5.1. The final report must have an A3 layout plan. The layout plan as well as a locality map must be in color</p>	<p>3.1 The Design/Layout Alternatives is included in Appendix C of the Final Basic Assessment/ESIA Report.</p> <p>4.1 The need and desirability of the development is included in the Final Basic Assessment Report under Section 5.9.</p> <p>5.1 The A3 layout plan is attached as Appendix A.</p>

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	<p>and with visible legend. The layout overlaid on sensitivity map must also form part of the final Basic Assessment Report.</p> <p>6. Public Participation Process</p> <p>6.1. It is noted that the draft report has been circulated for comments. Any further comments and responses from key stakeholders including proof of consultation must be in the Final report. The Public Participation Process attached on the Draft Basic Assessment is noted, however, it must form part of the final Basic Assessment Report and issue raised must be addressed.</p> <p>7. Other Aspects to be Considered</p> <p>7.1. This application is also listed in terms of Listing Notice 1 activity 28 of NEMA Regulation 2014, which will require GPEMF registration, for avoiding two applications for the same site please include activity 28 of Listing Notice 1 in the final Basic Assessment Report.</p> <p>8. Environmental Management Programme (EMPr)</p> <p>8.1. The attached EMPr is noted; however, a matrix of the impacts associated with the development indicating low-high must be included in the final report and must</p>	<p>6.1 The Public Participation documents are attached in Appendix E of the Final Basic Assessment/ESIA Report including further comments received during the review period.</p> <p>7.1 Listing Notice 1 activity 28 of NEMA Regulation 2014, which will require GPEMF registration has also been included in the Final Basic Assessment /ESIA Report and amended Application Form as per the Department recommendation.</p> <p>8.1 The impact ratings table as per Section 5 of the Basic Assessment Report and as per the GDARDE report</p>

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	<p>be practical, site specific and easily enforceable. An EMPr is a binding document and all the conditions in it should be enforceable, it is therefore important that words that do not emphasise enforcement must be avoided.</p>	<p>format has been included in the final Environmental and Social Management Plan as Appendix D.</p>
<p>18 September 2024</p> <p>Mr. Howard</p> <p>Willowbrooke</p>	<p>1. Thank you for your response. I am mailing to confirm that the same pipe burst on the 18/08/2024. The matter was reported to the relevant authorities however the management of the said leak was once again questionable. The pipeline is under the Midvaal Municipality management and has nothing to do with ERWAT or the management thereof.</p> <p>The said fix of the pipe was to collect the effluent from the broken pipe via honey suckers and dispel at the Joan Road Pump House where it was noted that the effluent would then go back into the “system” en-route to ERWAT however this proved unsuccessful as the burst pipe is post the pump station (located between the pump house and ERWAT). In effect the effluent was collected, dispersed, and then ended up in the same position it was collected due to the broken pipe. On discovery of this the honey suckers then collected from the source of the broken pipeline and dispelled direct to ERWAT. However, the effluent was a continuous flow due to valves most likely not</p>	<p>EAP:</p> <p>1. All associated environmental impacts have been duly considered for the proposed Malting Plant development. These potential environmental impacts were further detailed during the Public Participation meetings held on 11/09/2024 and 12/09/2024. Further note that the activities of a Malting Plant differ from a Brewery and therefore cannot be used to draw a comparison.</p> <p>The current infrastructure issues described in the email below are to be addressed with the relevant parties.</p>

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	<p>closed. The effluent eventually reached the sleeve under the road and was dispelling on both sides of Joan Road, making its path to the Klip River. To date there is still effluent lying on the surface of the land with a vile smell which has not been collected or area rehabilitated. The cynobacteria algae green hue with its vile and offensive smell should be a cause of concern for all local business and council which negatively impacts the environment and local residents.</p> <p>The valves where not closed as ERWAT has no mandate over the valves and can only close on the authority of Midvaal Council. Council has yet to confirm if this was done. I have requested a meeting with the Midvaal Mayor or delegate of authority but have not received a response to such request.</p> <p>It was further discovered at the pump house that beer labels where blocking the pipeline, this was reported to the Corporate Affairs Director of the local Beer company in Sedibeng.</p> <p>Our concern is that it appears that local business is passing this matter onto the relevant authorities with no concern over the environment. Once again as our</p>	

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	<p>property is in proximity to the pipeline and line that has various bursts we are negatively impacted. The matter has been reported to the Department of Environmental Affairs DWS, Green Scorpions and Rand Water.</p> <p>The leaking pipe was repaired 4.5 weeks later on the 13 September 2024.</p>	
<p>01 October 2024</p> <p>Midvaal Local Municipality</p> <p>Engineering Department.</p>	<p>1. Electrical</p> <p>1.1. The Municipality has enough capacity in the Graceview substation to supply the required capacity of 15 MVA as per the email below.</p> <p>1.2. The Developer shall appoint consulting engineers for the electrical design, supervision, and commissioning of the reticulation network as well as the contractor for the construction works.</p> <p>1.3. Appointed consulting engineers shall discuss the supply point, design, and associated equipment with MLM.</p> <p>1.4. MLM shall approve the electrical network design and equipment to be installed before implementation.</p>	<p>Engineering Team:</p> <p>1. Electrical</p> <p>1.1. Formal engagements have been made with Midvaal Local Municipality and Royal HaskoningDHV on behalf of Soufflet Malt. The relevant approvals on the electrical network design and equipment will be sought from Midvaal Local Municipality before implementation.</p> <p>1.2. Royal HaskoningDHV is the appointed consulting engineers for the project.</p> <p>1.3. Refer to 1.1 above.</p>

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	<p>2. Water and Sanitation</p> <p>2.1. The bulk water supply for this zone is currently operating at excess volume over the licence target. Looking at the latest data we are exceeding the license target with an average of 76 411kl/m leaving no available capacity on the system to supply any further development at the business park.</p> <p>2.2. Several meetings were held with the developer in which they were advised, there is not enough bulk water supply, and they were advised to approach Rand Water directly.</p> <p>2.3. Erwat indicated they have spare capacity at their plant, however, the developer was advised to assess and evaluate available pumping and pipeline capacity at Heineken pump station. They have not come back to us since then.</p>	<p>2. Water & Sanitation</p> <p>2.1. Soufflet Malt is aware of the potential water and sanitation constraints and have been engaging with ERWAT, Rand Water and Midvaal Local Municipality on these matters since. Various meetings have taken place with the Municipality and minutes were forwarded to Ms Erane Viljoen and Ms Beaula Tshabalala on 11 October 2024. A letter from ERWAT dated 8 November 2023, confirming their support of the Soufflet Malt development as well as a capacity assessment completed by Royal HaskoningDHV on 02 April 2024. was also forwarded in the email of 11 October 2024</p> <p>2.2. Refer to 2.1 above.</p> <p>2.3. Refer to 2.1 above.</p>
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p><u>General Comments</u></p> <p>Prior to addressing the comments, it should be reiterated that the proposed Project is an acceleration of the natural process of germination in a controlled environment. No fermentation takes place in the malting process. Further to this, the malting plant is not an extension to the Sedibeng Heineken Brewery and both facilities are separate entities.</p> <p>1. Classifications of Alcohol as organic chemicals</p> <ul style="list-style-type: none"> ▪ Alcohols are classified as organic chemicals because they contain carbon atoms and are derived from living organisms or can be synthesized from organic precursors. The general 	<p>Air Quality Specialist and Engineering Team:</p> <ul style="list-style-type: none"> ▪ There are no alcohols used or produced from the malting process. The malt produced will be replacing malt currently utilised within the existing Heineken Brewery (separate facility). No fermentation will be

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	<p>formula for alcohols is (ROH), where (R) is a hydrocarbon group, and (OH) is the hydroxyl group (-OH). The presence of the hydroxyl group is a distinguishing feature of alcohols, making them part of the broader class of organic compounds that includes carbohydrates, lipids, and proteins.</p> <p>Classification as Organic Chemicals:</p> <ol style="list-style-type: none"> 1. Carbon Backbone: Alcohols, like all organic compounds, are primarily composed of carbon (C) atoms. They also generally contain hydrogen (H) atoms and may include other elements like oxygen (O). 2. Hydroxyl Functional Group: The presence of the hydroxyl (-OH) group is a key feature of alcohols that differentiates them from other classes of organic chemicals. This functional group influences the chemical behaviour and properties of alcohols. 3. Nature and Sources: Alcohols can be found in nature (e.g., ethanol in fermented beverages) or produced synthetically. They play roles in biological processes and have numerous applications in pharmaceuticals, food, and industry. 	<p>taking place during the malting process at the proposed malt plant. There is often a confusion between this first transformation which is an acceleration of a natural process that happens in the fields (germination) and activities using the barley as raw material for the manufacture of alcoholic beverages.</p>

RAISED BY	ISSUE/COMMENT	RESPONSE
	<p>Air Emission Pollutants:</p> <ol style="list-style-type: none"> 1. Volatile Organic Compounds (VOCs): Many alcohols are volatile, meaning they can evaporate easily into the atmosphere. Alcohols like ethanol and isopropanol are classified as VOCs, which can contribute to air pollution when released into the environment. 2. Ozone Formation: VOCs, including alcohols, can participate in atmospheric chemical reactions that lead to the formation of ground-level ozone. This occurs when VOCs react with nitrogen oxides (NOx) in the presence of sunlight, which can lead to smog and have adverse health effects. 3. Direct Release: In industries that utilize alcohols as solvents or in chemical processes, there can be direct emissions of alcohol vapours into the atmosphere, contributing to local air pollution concerns. 	
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>2. Estimation of particulate matter (PM) and volatile organic compounds (VOCs) from a malting plant</p> <p>Estimating air emissions of particulate matter (PM) and volatile organic compounds (VOCs) from a malting plant requires specific data about the processes involved, the types of grains used, and the technology implemented in the facility. However, I can provide a general framework for how you might approach estimating these emissions based on a production rate of 500 tons per year.</p>	<p>Air Quality Specialist and Engineering Team:</p>

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	<p>1. Particulate Matter (PM) Emissions</p> <p>1.1. Sources of PM:</p> <ul style="list-style-type: none"> ▪ Dust generated during grain handling (transport, milling, etc.). ▪ Particles from the drying process (including grain husks). <p>1.2. Estimation Approach:</p> <p>1. A rough estimate for PM emissions from malting plants can range from 0.5% to 2% of the total grain processed. This percentage can vary based on efficiency of dust control systems, types of grains, and processing methods.</p> <p>2. For 500 tons/year production:</p> <ul style="list-style-type: none"> ○ Low estimate (0.5%): $500 \text{ tons} * 0.005 = 2.5 \text{ tons PM/year}$. ○ High estimate (2%): $500 \text{ tons} * 0.02 = 10 \text{ tons PM/year}$. 	<p>1.1. Sources of PM</p> <ul style="list-style-type: none"> ▪ The generation of PM from these sources has been considered in the Air Quality Impact Assessment (AQIA). PM emissions are generated during goods handling in dry phase. <p>All conveying equipment is close type, connected and interlocked with aspiration systems that will catch and collect the dust.</p> <p>1.2. Estimation Approach</p> <ul style="list-style-type: none"> ▪ We are unsure as to the basis (i.e. the source) of the emission factors provided quoted by Sedibeng that have been estimated. The AQIA uses a PM calculation for the de-dusting system assumed that air moves through the silo and through a closed system (which would collect dust from grain receiving, sieving and the conveyor system) and exits through the bag filter (with an emission limit of 10mg/m^3). While the routing of the air flow does not affect the emissions calculated, the air flow used does. The model assumed that 3l/s/ton (http://storedgrain.com.au/wp-content/uploads/2013/07/GRDC-Aeration-Book-2013_Final.pdf) moves through the system in a

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		<p>continuous manner (24/7/365). This results in an overestimation of the air flow when compared to the updated estimated provided by the Engineering Team which assumes 70% workload and 4380 hours of operation per annum and an accurate calculation of the actual air flow required. The PM emissions utilized are therefore overestimated as 31.8t/a when compared with the actual expected emissions of 4t/a as calculated by the Engineering Team. The impacts that the AQIA has modelled are therefore likely to be overestimating the expected impact.</p>
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>2. Volatile Organic Compounds (VOCs) Emissions</p> <p>2.1. Sources of VOCs:</p> <ul style="list-style-type: none"> ▪ Emissions can arise from the malting process itself, particularly during the drying phase, as well as from fermentation processes (if applicable). <p>2.2. Estimation Approach:</p> <ul style="list-style-type: none"> ▪ VOC emissions can vary widely based on the materials used, ranging from 0.1% to 0.5% of the total grain processed for smaller facilities. ▪ For 500 tons/year production: <ul style="list-style-type: none"> ○ Low estimate (0.1%): $500 \text{ tons} * 0.001 = 0.05 \text{ tons VOC/year (~100 lbs)}$ 	<p>Air Quality Specialist and Engineering Team:</p> <p>2.1. Sources of VOCs</p> <ul style="list-style-type: none"> ▪ VOCs can arise from the malting process and this was quantified using a conservative emission factor as set out in section 4.1.1 of the AQIA. In order to determine the ambient impact of potential VOC emissions, ambient fence-line monitoring is proposed as set out in section 5.7.1 of the AQIA. <p>2.2. Estimation Approach</p> <ul style="list-style-type: none"> ▪ We are unsure as to the basis (i.e. the source) of the emission factors provided by Sedibeng that have been estimated.

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	<ul style="list-style-type: none"> ○ High estimate (0.5%): $500 \text{ tons} * 0.005 = 2.5 \text{ tons VOC/year}$. <p>2.3. Summary Estimate</p> <ul style="list-style-type: none"> ▪ Particulate Matter (PM) Emissions: 2.5 to 10 tons/year. ▪ Volatile Organic Compounds (VOCs) Emissions: 0.05 to 2.5 tons/year. 	<p>2.3. Summary Estimate</p> <ul style="list-style-type: none"> ▪ We are unsure as to basis of the figures quoted by Sedibeng that have been estimated.
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>Important Considerations</p> <ol style="list-style-type: none"> 1. Regulatory Standards: Emissions can have regulatory limits. It's important to consider local environmental regulations when calculating potential emissions. 2. Control Technologies: The efficiency of emission control systems (such as baghouses, scrubbers, or cyclone separators) will significantly affect actual emissions. 3. Operational Practices: Good housekeeping and operational practices can reduce dust emissions from grain handling and processing. 4. Field Measurements: Ideally, you would want to measure emissions directly to get a more accurate value rather than relying solely on estimates. 5. Continuing Studies and Local Data: Local or regional studies on similar facilities can provide more specific insights into expected emissions. 	<p>Air Quality Specialist, Engineering Team and EAP:</p> <ol style="list-style-type: none"> 1. The calculation of potential emissions was based on emission factors, emission limits provided by the Engineering Team as well as measurements from similar facilities (in the case of odour specifically) as set out in section 4.1.1 of the AQIA. 2. Source monitoring is recommended in section 5.7.2 of the AQIA to ensure that the abatement equipment functions according to design specifications. 3. Facility-wide inspections will be undertaken to ensure that no excessive emissions occur is proposed in section 5.7.2 of the AQIA and the ESMP. A Maintenance Management Plan will be compiled that will outline good housekeeping and operational practices related to the Project.

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	<p>This framework should provide a starting point for estimating PM and VOC emissions from a malting plant with a production capacity of 500 tons per year.</p>	<p>4. Fence-line monitoring is proposed in section 5.7.1. of the AQIA and the ESMP.</p> <p>5. Where possible, technological differences and operating principles should be considered when comparing the emissions from different facilities.</p>
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p><u>Comments specific to the AQIA</u></p> <p>a. General Overview:</p> <p>The Air Quality Impact Assessment Report provides a comprehensive analysis of the potential impact of establishing a New Malting Plant in Sedibeng. The approach includes thorough meteorological data analysis, dispersion modelling, and assessment of ambient air quality standards (NAAQS), ensuring that the findings contribute to informed decision-making regarding air quality management and compliance.</p>	
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>1. Compliance with Ambient Air Quality Standards:</p> <ul style="list-style-type: none"> ▪ The report indicates that concentrations of SO₂, NO₂, and CO comply with short-term standards. However, daily concentrations of PM₁₀ and PM_{2.5} are frequently above the applicable NAAQS. This suggests that while the facility may not significantly contribute to these pollutants, contributes to an already existing non-compliance issue. ▪ Recommendation: Continued monitoring of these pollutants is essential to ensure that compliance is maintained and to develop effective pollution mitigation strategies. 	<p>Air Quality Specialist and EAP:</p> <ul style="list-style-type: none"> ▪ To ensure that the facility does not have a significant ambient impact over and above the baseline impact, fence-line ambient monitoring and source monitoring is proposed in sections 5.7.1 and 5.7.2 of the AQIA and ESMP. ▪ The AQIA and ESMP recommends using passive diffusive monitoring at the fence-line.

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<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>2. Odour Management:</p> <ul style="list-style-type: none"> ▪ The assessment notes potential for increased odour impacts, particularly at receptors to the south and southwest of the facility, primarily due to kiln emissions. Odour nuisance is projected to affect nearby communities. <p>Recommendation: Implementation of an odour management plan, including complaints register and a proactive monitoring and mitigation strategy, is crucial. Consideration should be given to technological upgrades that can minimize odours, especially during peak operational times.</p>	<p>Air Quality Specialist and EAP:</p> <ul style="list-style-type: none"> ▪ Proposed measures have been included in section 5.7.1. of the AQIA and ESMP. It is recommended that an odour complaints register be kept, and all complaints received noted, investigated and corrective action taken, where appropriate. This measure is also included in the ESMP. Any corrective action taken should be noted in the register. Corrective actions may include technological upgrades if required.
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>3. Particulate Matter Emissions:</p> <ul style="list-style-type: none"> ▪ The report identifies barley intake, storage, and drying as the primary sources of particulate emissions. The assumption of continuous emissions at a ceiling level may lead to overestimation. ▪ Recommendation: Implement enhanced dust control measures, such as the use of water sprays or dust suppressants, especially during dry seasons. Additionally, actual emissions data should be collected post-installation to validate the assumptions made in the report. 	<p>Air Quality Specialist and EAP:</p> <ul style="list-style-type: none"> ▪ Dust management is critical to the safe operation of the facility due to the explosion hazard of fine dust particles. Abatement is to be installed to ensure that emissions are below 10mg/m³, as set out in the AQIA. It must be noted that there is no PM from the drying process. The malt plant is equipped with a de-dusting system based on bag filters. ▪ The AQIA also caters for a paved access road, based on information provided by the Engineering Team.
<p>02 October 2024</p>	<p>4. Impact of Other Local Sources:</p> <ul style="list-style-type: none"> ▪ The facility will operate within a challenging air quality context given existing local background pollution from 	<p>Air Quality Specialist:</p> <ul style="list-style-type: none"> ▪ The malt plant will fall within the Vaal Triangle Airshed Priority Area (VTAPA) an area with a focus on regional

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<p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>industries, vehicle emissions, and domestic fuel combustion.</p> <ul style="list-style-type: none"> ▪ Recommendation: A collaborative regional air quality management approach might be beneficial. Engaging with local government and nearby industries to align pollution reduction initiatives can mitigate cumulative impacts. 	<p>approach to air quality management. The Applicant's (Soufflet Malt) designated Environmental Manager should join the Sedibeng District Municipality (SDM) Integrated Task Team (ITT) and the Multi-Stakeholder Reference Group (MSRG) meetings to collaborate with local government and industries to ensure alignment in management, measurement, and mitigation of air pollution.</p>
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>5. Long-term Monitoring and Reporting:</p> <ul style="list-style-type: none"> ▪ The report suggests regular ambient air quality monitoring and detailed reporting of NO₂ and PM10 levels, along with maintaining records of odour complaints and corrective actions taken. ▪ Recommendation: Establish a continuous air quality monitoring station near the facility to provide real-time data. This can improve transparency and community trust, while also enabling swift responses to any exceedances. 	<p>Air Quality Specialist:</p> <ul style="list-style-type: none"> ▪ The Kliprivier monitoring station (continuous monitoring) is located in close proximity to the facility and can provide insight into the ambient pollutant levels in the area. ▪ Odour impacts are subjective and therefore complaints must be considered and addressed even if no standards were exceeded for specific components contributing to the odour impact.
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>6. Buffer Zones:</p> <ul style="list-style-type: none"> ▪ The report recommends a minimal buffer zone of 100m to 250m from the facility, classifying it as a Category 2 industry. The presence of sensitive receptors within the buffer raises concerns regarding health impacts. ▪ Recommendation: It may be prudent to explore and implement stricter buffer zone policies or community 	<p>Air Quality Specialist and EAP:</p> <ul style="list-style-type: none"> ▪ The sensitive receptors identified are listed in Table 1-1 of the AQIA. These receptors do not fall within the recommend buffer zone. It is acknowledged that communities should be protected from potential emissions and measures to do so have been proposed in sections 5.7.1. and 5.7.2. of the AQIA and in the ESMP.

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	<p>guidelines to protect nearby residences and schools from potential emissions.</p>	
<p>02 October 2024</p> <p>Sedibeng District Municipality</p> <p>Air Quality Department</p>	<p>7. Cumulative Impact Assessments:</p> <ul style="list-style-type: none"> ▪ While the individual impact assessments have been evaluated, the report should have included a cumulative impact assessment considering the interactions of multiple pollutant sources in the area. ▪ Recommendation: A more robust cumulative assessment should be conducted to account for both existing and proposed developments within the Sedibeng region to understand the broader air quality implications. 	<p>Air Quality Specialist:</p> <ul style="list-style-type: none"> ▪ Cumulative impacts are acknowledged by considering the measured ambient pollutant concentrations from the Kliprivier air quality monitoring station. The ambient data indicates that PM2.5, PM10 and ozone standards are exceeded in the area. The potential impact from PM emissions from the facility is shown in section 5.1.5.2 of the AQIA. While the PM impacts are expected to result in exceedences of the NAAQS, the impact would be cumulative to the exceedences already being measured, as acknowledged by the impact significance ratings in section 5.6 of the AQIA. Measures to limit PM emissions from the facility are proposed in sections 5.7.1. and 5.7.2. of the AQIA. ▪ Table 5.11 in the AQIA has been amended to illustrate the 'additive' effect of the malt plant at the monitoring station as a quantitative basis to the cumulative impact rating. The cumulative impact can still be considered medium, as any additional emissions will occur in an area where short term exceedences of PM are present due to other sources of emissions. However, in practice, a significant cumulative PM impact is not

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		<p>expected if the plant is operating within the design parameters.</p>
<p>02 October 2024 Sedibeng District Municipality Air Quality Department</p>	<p>8. Mitigation Measures:</p> <ul style="list-style-type: none"> ▪ The report provides initial mitigation measures but lacks specificity regarding implementation. ▪ Recommendation: Detailed plans, stakeholder engagement, and strategies for regular reviews of mitigation measures should be developed to ensure effective air quality management post-implementation. 	<p>Air Quality Specialist and EAP:</p> <ul style="list-style-type: none"> ▪ A recommendation for the development of a detailed Air Quality Management Plan (AQMP), including appropriate management, measurement and mitigation measures, has been added to section 5.7.3 of the AQIA and the ESMP.

ANNEXURE F

Responses to Comments

ROYAL HASKONINGDHV (PTY) LTD

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Interested and Affected Party

~~XXXXXXXXXXXXXXXXXXXX~~

Date:	18 July 2024	Contact name:	Sibongile Gumbi
Your reference:	N/A	Telephone:	087 352 1506
Our reference:	MD6264-RHD-XX-XX-CO-X-0001	Email:	Sibongile.gumbi@rhdhv.com
Classification:	Project related		
Enclosures	N/A		

~~XXXXXXXXXXXXXXXXXXXX~~

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 16 May 2024 refers.

Comment	Response
<ol style="list-style-type: none"> Smell is a concern with regards to the processes that will take place at a maltery. Idea is neither good or bad. I believe job creation is great. A green belt should be considered and a proper impact study on the environment considering fauna and flora. 	<p>Air Quality Specialist:</p> <ol style="list-style-type: none"> Odourous compounds is unlikely to be emitted as this is a germination process and not a fermentation process and no chemicals are used in the process. It is likely that odour may emanate from the wastewater treatment facility (WWTP) but this will be addressed appropriately. <p>Increased odour impacts are possible at receptors located towards the south and south-west of the plant.</p> <p>It is recommended that an odour complaints register be kept, and all complaints received noted, investigated and corrective action taken, where appropriate. Any corrective action taken should be noted in the register.</p>

	<p>2. An Environmental and Social Impact Assessment (ESIA) is being undertaken for the Project. With regards to a green belt, note that the Project is situated within Zone 5 (Industrial and Large Commercial Focus) of the Gauteng Province Environmental Management Framework (GPEMF) and not within a Critical Biodiversity Area, and heavily transformed. According to the DFFE Screening Tool, the Terrestrial Biodiversity and Plants Species theme is indicated as Low sensitivity due to the transformed nature of the site and the Animal theme is Moderate due to the presence of the spotted-necked otter.</p>
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We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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Interested and Affected Party

Date: 18 July 2024 Contact name: Sibongile Gumbi
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Our reference: MD6264-RHD-XX-XX-CO-X-0001 Email: Sibongile.gumbi@rhdhv.com
Classification: Project related
Enclosures N/A

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE
AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A
NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE
MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY,
GAUTENG PROVINCE: COMMENT RESPONSE**

Your comments dated 16 May 2024 refers.

Comment	Response
1. Grain that's malted locally is good for the community, the environment and the economy. Needless to say local malt makes beer taste better as well.	EAP: 1. Your comment is acknowledged and it should be noted that the Project greatly contributes as an import substitution and for the enhancement of barley production for the agricultural sector in South Africa.

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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~~Ms. Ms. Faultley~~
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Classification:	Project related		
Enclosures	N/A		

~~Dear Ms. Faultley,~~

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 16 May 2024 refers.

Comment	Response
<ol style="list-style-type: none"> 1. There is already a water, light and sound pollution issue from Heineken and Klipriver Business Park. 2. Plus there are a lot of small animals who live on that land who will again be displaced. 3. There is already a water pollution issue from Heineken. 4. There is not sufficient road infrastructure for the existing businesses at Klipriver Business Park, adding in another big factory will seriously impact that. 5. Also this will bring in more outside people and will increase the crime rate in the area. 	<p>Engineering Team and Noise Specialist:</p> <ol style="list-style-type: none"> 1. Pollution: Water pollution – We cannot comment on Heineken’s operations. The effluent stemming from the malt facility (this Project) is as a result of barley and water interacting under different temperatures. The process occurs naturally and without any chemical additives, as such the effluent is wholly organic in nature. The plant further endeavours to responsibly discharge any effluent via the correct pathways to fully comply with its legislative obligations as well as Soufflet's commitment to the environment.

Comment	Response
	<p>Light pollution – The Engineering Team will ensure that the lighting designs for the new malt plant will include but is not limited to ensuring that all external lights are:</p> <ul style="list-style-type: none"> ▪ Angled/directed to only the areas that they are meant to illuminate. ▪ Are not angled/directed upwards to the open sky. ▪ Are not directed to adjacent properties or public areas. ▪ Are designed to the correct lux levels based on the area they illuminate. ▪ To the correct specification based on the area they illuminate. <p>Sound pollution - the Environmental Noise Impact Assessment recommends the following in terms of noise levels, which will be incorporated into the Environmental and Social Management Plan (ESMP):</p> <ul style="list-style-type: none"> ▪ 55 dBA (as recommended by the IFC) for daytime residential use; and ▪ 45 dBA (as recommended by the IFC) for night-time residential use. ▪ The plant should also limit the noise level to less than 60 dBA on the boundary (70 dBA during the daytime period, and 60 dBA at night for a 70 dBA day-night noise limit). ▪ At all stages, surrounding receptors should be informed about the Project, providing them with factual information without setting unrealistic expectations. ▪ The Project Applicant must implement a line of communication (i.e., a help line where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers. The plant should maintain a commitment to the local community (people staying within 1,000m from construction or operational activities) and respond to noise concerns in an expedient fashion. ▪ The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the processing plant. <p>EAP:</p>

Comment	Response
	<p>2. The vegetation within the study area is predominantly herbaceous, and support species typically associated with secondary/disturbed grassland. From historical satellite imagery, it is apparent that the entire site was previously disturbed by mowing for the production of livestock fodder. Within the greater investigation area, the vegetation is also indicative of previous disturbance.</p> <p>The Department of Forestry, Fisheries and the Environment (DFFE) Screening Tool has indicated that a small portion of the western section of the site as Medium sensitivity due to the possible presence of Mammalia - <i>Hydrictis maculicollis</i> (spotted-necked otter) with the majority of the site has been classified as a Low sensitivity. The project is located in an urban area within the Graceview Industrial Park and the likeliness of the <i>Hydrictis maculicollis</i> being present on site is considered unlikely due to the transformed nature of the site and with the closest riparian habitat located approximately ~1 km away from the site separated by an access road bordering the Kliprivier Business Park and Graceview Industrial Park. The Project is within Zone 5 (Industrial and Large Commercial Focus) of the Gauteng Province Environmental Management Framework (GPEMF) and not within a Critical Biodiversity Area, and heavily transformed.</p> <p>Engineering Team:</p> <p>3. We cannot comment on Heineken's operations. The effluent stemming from the malt facility (this Project) is as a result of barley and water interacting under different temperatures. The process occurs naturally and without any chemical additives, as such the effluent is wholly organic in nature. The plant further endeavours to responsibly discharge any effluent via the correct pathways to fully comply with its legislative obligations as well as Soufflet's commitment to the environment.</p> <p>Traffic Impact Specialist:</p>

Comment	Response
	<p>4. The Traffic Impact Assessment indicated the following:</p> <ul style="list-style-type: none"> ▪ It is expected that the development will generate an additional 50 vehicles per hour in both weekdays AM and PM peak periods on the surrounding road network. ▪ The analysis indicates that all the intersections are currently operating at acceptable levels of service – LOS (A) in the 2024 scenario. This correlates with the visual observation. ▪ The AM peak and PM peak scenarios for the future traffic in 2029 without development have been analysed. The results indicate that all three intersections will continue to operate at an acceptable LOS. Therefore, additional measures are not necessary to improve traffic conditions at these intersections. ▪ There is no intersection upgrade required to improve the performance of the network near the site. However, all roads anticipated to provide access to the proposed development, should be paved to improve accessibility (3.0 - 5.5m roadway (two way)). ▪ The proposed Project will be constructed within the Graceview Industrial Park, which will still be developed with other industries in future. <p>Social Specialist:</p> <p>5. The Socio-economic Impact Assessment conducted for the project recommends the following measures to be implemented for the Project and will be incorporated into the ESMP:</p> <ul style="list-style-type: none"> ▪ A Community Liaison Officer should be appointed. ▪ The communities which are most in need of employment on a local level should be considered for employment before outsourcing. ▪ Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. ▪ Access in and out of the construction area should be strictly controlled. ▪ Prioritising local hiring to reduce the influx of external job seekers and support community development.

Comment	Response
	<ul style="list-style-type: none"> ▪ Implementing training programs for local residents to enhance employability in the project, thereby reducing reliance on external semi-skilled and unskilled labour. <p>A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process.</p>

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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Classification:	Project related		
Enclosures	N/A		

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 11 July 2024 refers.

<ol style="list-style-type: none"> 1. Project location <ol style="list-style-type: none"> 1.1 Remaining Extent of Erf 244 Graceview Extension 3 Township. 2. Zoning of the properties as per Midvaal Land Use Scheme, 2023. <ul style="list-style-type: none"> ▪ 2.1 The property is zoned “Industrial 1” with an annexure for Commercial uses, place of refreshment of own employees only and with the written consent of the local authority such as retail trade and industries which subordinate and related to the main commercial use and Agricultural Industry for a malting plant. 3. Midvaal Spatial Development Framework 2024/2025. <ol style="list-style-type: none"> 1.1 In terms of the above-mentioned policy, the subject properties fall within the demarcated Urban Development 	<p>EAP & Engineering Team:</p> <ol style="list-style-type: none"> 1. The Project location is correct as stated. 2. The property zoning as “Industrial 1” is confirmed in the zoning certificates dated 26 May 2021 (REF 15/2-MLUS81) and 05 Jul 2024 (REF 15/1/6) received for the Project from the Midvaal Municipality. 3. Noted that in terms of the Midvaal Spatial Development Framework 2024/2025 that the properties fall within the demarcated Urban Development Boundary and are earmarked for “Industrial/Commercial” purposes. 4. Noted that in terms of the R59 Corridor Strategic Development Plan, 2011 the subject area is earmarked as Existing Industrial” whereby “Industrial/Commercial” land uses are permitted. 5. A Dolomite Stability Report will be submitted to the Midvaal Municipality prior to building
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<p>Boundary and are earmarked for “Industrial/Commercial” purposes.</p> <p>4. R59 Corridor Strategic Development Plan, 2011 4.1 In terms of the above-mentioned policy, the subject area is earmarked as Existing Industrial” whereby “Industrial/Commercial” land uses are permitted.</p> <p>5. Dolomite 1.1 The properties are affected by dolomite and thus will be subject to a dolomite stability report prior to building plan approval in line with the provisions of Clause 20 of the Midvaal Land Use Scheme, 2023.</p> <p>6. Provincial Roads 6.1 The application properties are affected by existing Gautrans routes.</p> <p>7. Land Use Section 7.1 The proposed Malting Plant can be accommodated as a primary right on the portion zoned “Industrial 1” and no land use application is required subject to the following:</p> <ul style="list-style-type: none"> - Site Development Plan being submitted for consideration. - Building Plans being submitted for consideration. 	<p>plan approval in line with the provisions of Clause 20 of the Midvaal Land Use Scheme, 2023. Portions of the site is classified as dolomite D4 area designation, as such a Competence Level 4 [L4 Geo-professional] will be included in the team.</p> <p>6. Future K-routes i.e., K77 and a Class 3 road are planned in the vicinity of the Project. The Route Determination Reports have been requested from the Gauteng Department of Roads and Transport to determine the impact on these future planned routes.</p> <p>7. We are in the process of compilation of the documents required for the Site Development Plan and Building Plans and will be submitted to Midvaal prior to construction.</p>
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We hope the above responses have addressed the concerns.

Kind Regards



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Classification:	Project related		
Enclosures	N/A		

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 12 July 2024 refers.

<p>(Thanks) for including Midvaal in the distribution list. I am pleased to see that various specialists has been appointed to further investigate the potential environmental impact.</p> <ol style="list-style-type: none"> One of our biggest concerns is the impact of ground water extraction in an area underlain by dolomite, especially with areas denoted as D3 and D4 in close proximity to the proposed plant. Please note that Midvaal has a height restriction on any structures built within the Midvaal area of jurisdiction. This also applies to the height of future silo's for storage. The officials from Midvaal will solicit comments from all internal departments and submit a consolidated response obo MLM. 	<p>Geohydrologist:</p> <ol style="list-style-type: none"> The Geohydrological Assessment has modelled the potential aquifer drawdown of the compartment from which the proposed abstraction will take place, as well other abstractions from the compartment and evaluated the cumulative impact. Indications based on the information at the time of study and based on the models and the proposed volumes, the impact is considered marginal. No cumulative impact is anticipated on the dolomite compartment from which water will be drawn, due to the low volumes proposed. The Geohydrological Assessment does not foresee any major impacts associated with the proposed dewatering/abstraction activity. <p>Engineering Team:</p> <ol style="list-style-type: none"> One building will be affected by this condition and an application will be made to increase the height.
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	<p>EAP:</p> <p>3. The EAP would greatly appreciate the comments to be provided during the 30-day review period of the draft ESIA Report in order for these comments to be integrated into the said report.</p>
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We hope the above responses have addressed the concerns.

Kind Regards



Sibongile Gumbi

Environmental Assessment Practitioner
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Classification:	Project related		
Enclosures	N/A		

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 16 May and 16 July 2024 refers.

Comment	Response
1. Complimentary industries are very good idea, especially when looking at carbon footprint. It makes perfect sense to have a malting operation right next to the brewery. Reduction of carbon footprint of malt inputs as transport and shipping of the final product is eliminated. 2. Very happy to see quality development in the Midvaal.	EAP: 1. The Graceview Industrial Park has been selected as the best location for the malting plant as it is within a site that has been zoned as "Industrial 1" and falls within an area earmarked for "industrial/commercial" purposes according to the Midvaal Spatial Development Framework 2024/2025. 2. The support for the project is acknowledged.

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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~~Mr. Pieter Lawrence~~
Interested and Affected Party
~~XXXXXXXXXXXX@XXXXXX~~

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Enclosures	N/A		

~~Dear Mr. Lawrence~~

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 16 May 2024 refers.

Comment	Response
<ol style="list-style-type: none"> All the trucks that cause congestion, pollution and uneasiness for motorists and pedestrians. Development pressure in areas that until relatively recently were being farmed. More people will move into the informal settlements at Piels and surrounds in the hope of getting a job (I can guess that a minimal number of long term jobs will be created). More residents means potentially more crime and a corresponding decrease in property values. I anticipate that more people will move into the informal settlement and this will increase the pressure on the finite facilities and lead to increased levels of crime, etc. 	<p>EAP:</p> <ol style="list-style-type: none"> Traffic management measures will be included in the ESMP. A Traffic Management Method Statement/Plan must be compiled by the Contractor to manage congestion, pollution and safety for motorists and pedestrians. <p>Social Specialist:</p> <ol style="list-style-type: none"> The Socio-economic Impact Assessment conducted for the project recommends the following measures to be implemented for the Project and will be incorporated into the ESMP: <ul style="list-style-type: none"> A Community Liaison Officer should be appointed.

Comment	Response
<p>3. It feels like this is a foregone conclusion that the project will go ahead irrespective of any comments.</p>	<ul style="list-style-type: none"> ▪ The communities which are most in need of employment on a local level should be considered for employment before outsourcing. ▪ Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. ▪ Access in and out of the construction area should be strictly controlled. ▪ Prioritising local hiring to reduce the influx of external job seekers and support community development. ▪ Implementing training programs for local residents to enhance employability in the project, thereby reducing reliance on external semi-skilled and unskilled labour. ▪ A method of communication should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. <p>EAP:</p> <p>3. The objective of the Environmental and Social Impact Assessment (ESIA) is to consider the positive and negative impacts of the proposed Project as well as comments and issues raised by Interested and Affected Parties (I&APs) and rating these impacts in terms of their probability, duration, scale and magnitude resulting in significance before and after mitigation and presenting these results in a transparent and objective manner that will allow the Competent Authority to make a decision on the Project. Therefore, approval of the Project is not a foregone conclusion.</p>

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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~~Mr. Sibongile Gumbi~~
Interested and Affected Party
~~Suburban City, Johannesburg~~

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Enclosures N/A

~~Dear Mr. Weyers,~~

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE
AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A
NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE
MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY,
GAUTENG PROVINCE: COMMENT RESPONSE**

Your comments dated 16 May 2024 refers.

Comment	Response
1. Creating more jobs.	EAP: 1. The potential for the Project to create employment opportunities is noted.

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

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Classification:	Project related		
Enclosures	N/A		

~~Dear Mr and Ms Designation,~~

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE: COMMENT RESPONSE

Your comments dated 16 May 2024 and 24 June 2024 refers.

Comments	Response
<p>1. The environmental impact of burst pipelines/discharge from local business over lands into river courses and obnoxious odours within the community of the greater Klipriver region.</p> <p>2. The current climate is that there have been past issues where burst pipelines occurred in the area where the community reported to local authorities and businesses involved. Lack of responsibility was an issue where none of the entities involved took initial charge causing the environment to suffer along with the residents in its path. Currently there are outstanding environmental concerns being investigated from 2021. The community and</p>	<p>EAP and Engineering Team and Applicant:</p> <p>1. Our Project is a greenfield development and is in the design phase and as such, existing industries, may be responsible for the burst pipeline/discharge. Upon further correspondence (27 June 2024) with you regarding the matter, the spatial location and date, it was indicated that the incident occurred in 2021 and you raised the matter with the Midvaal Municipality, ERWAT and Heineken, however no response was provided.</p> <p>2. The Midvaal Municipality is responsible for the maintenance of existing infrastructure i.e., pipelines and pump station. It is therefore recommended that via the Ward Councilor, a</p>

Comments	Response
<p>environment are the ones suffering due to the lack of responsibility and action.</p> <p>3. Negative impact on the area, animal and aquatic life and human health and lifestyle including: burst pipelines; burst wall dams; discharging effluent over land into furrows into rivers; overflowing pump houses causing the Klip River to receive effluent from the overflow; obnoxious and offensive smells from local businesses (hop/sewerage/grains); excessive pest issues due to effluent releases and burst pipelines; eco-systems being negatively impacted; health concerns for the residents in the area; endangerment to animal life; ozone and odour pollution; reduced property values; direct impact on tourism businesses; underground; water concerns due to effluent release into fields, rivers and burst pipes.</p> <p>4. Lack of responsibility when impact occurs.</p> <p>5. Loadshedding impact on ERWAT and pump stations have caused breakdowns and overloading causing overflowing and effluent release over lands in proximity to residential property and rivers being affected.</p> <p>6. ERWAT Design & Maintenance capacity for additional discharge (Burst Wall February 2024) current overload concerns. Recent failure of the retaining walls along the ponds (structural issue).</p> <p>7. Discharge of black water into the Klip River and across lands not far from residents and boreholes/dams.</p> <p>8. The pipe burst has occurred on the line from the Pump Station in Joan Road to ERWAT on numerous times. The “fatal” incident where it affected our spring lake occurred in January 2021, the matter is currently still being investigated. The matter was reported to the relevant authorities on the 4 January 2021. When the incident occurred, there was a delay in repairing the fix and when it was eventually repaired the pipe broke in the same place. It was not the first time that the pipe burst. The secondary issues when the pipe bursts is that effluent continues being discharged to the pump station where it will eventually overflow at the pump house and expel into the Klip River which is an environmental catastrophe. A third issue was with extensive load shedding</p>	<p>meeting is held with the Midvaal Municipality to raise existing/current issues.</p> <p>3. As mentioned in Point 1 above, the malting plant is a greenfields development and impacts such as burst wall dams; pipelines, discharging effluent over land into furrows; overflowing pump houses causing the Klip River to receive effluent from the overflow; obnoxious and offensive smells from local businesses (hop/sewerage/grains) appear to be associated with the current operations of the businesses in the area as well as Midvaal and ERWAT. Discharge into any watercourse, will be subject to approvals from the relevant authorities.</p> <p>It should also be mentioned that the proposed Project is within Zone 5 (Industrial and Commercial Focus) of the GPEMF and the proposed malt plant falls within the demarcated Urban Development Boundary and earmarked for “Industrial/Commercial” purposes according to the Midvaal Spatial Development Framework 2024/2025.</p> <p>4. The various mechanisms of reporting incidents and complaints with the surrounding businesses, Midvaal and ERWAT need to be pursued further and appropriate investigations and the results thereof need to be shared with yourself as the Complainant. The Ward Councilor may be able to assist further. A grievance mechanism will be established for <u>this</u> Project (new malt plant) to receive and facilitate resolution of I&AP concerns and grievances about this specific Project. The proposed Project cannot respond on behalf of ERWAT. It is recommended that the concerns are referred directly to ERWAT to respond to.</p> <p>5. Loadshedding is a nation-wide problem. It is recommended that contact is made with ERWAT to determine what plans are in place if and when loadshedding occurs.</p> <p>6. The source of the “black water” is unknown and not related to this Project.</p> <p>7. Our Project is a greenfield development and is in the design phase and as such, existing industries, may be responsible for the burst pipeline/discharge. Upon further correspondence with you regarding the matter</p>

Comments	Response
<p>periods when the pump stations generator was not operational rendering the pump house ineffective and failing in operations causing spillage over the lands into the Klip River. As explained we have had to deal as residents with foul smells polluting the air, pests breeding in contaminated water and our water being compromised on our property as well as the Klip River. I have done extensive reports on this matter. My own business and property has been negatively affected to the point that is undesirable to sell due to the odour emanating from the pump house when spillages occur as well as when there is no spillages a foul smell at times occurs and is incredibly offensive. We further have to deal with offensive odours from ERWAT caused by spillages, breakdowns, pipes being stolen causing sludge spillage, not able to rehabilitate area due to location of spills (vlei area) plus there is concern that the plant needs an upgrade to increase its capacity so perhaps this should occur first before any new developers tap into this already strained plant.</p> <p>9. I have quite a few incidents on video however due to file size they are too large to send. The images attached indicate the site of burst pipe and the proximity of the pumpstation to the burst pipe and river.</p>	<p>regarding the location (GPS coordinates) and date of the burst pipeline and incidents recorded, it was indicated that the incident occurred in 2021 and you raised the matter with the Midvaal Municipality, ERWAT and Heineken, however no response was provided. It is recommended that further discussions are held with the responsible parties to obtain closure on the matter.</p> <p>8. It is recommended that further discussions are held with the responsible parties i.e. Midvaal, ERWAT, surrounding businesses, to raise existing and new issues and obtain closure on the matter.</p> <p>9. The photos provided of the incident that occurred in 2021 have been received. It was also indicated that the matter was reported in 2021 when the incident occurred by residents in the area. The local authorities were notified via email and Whatsapp groups and telephonically. Unfortunately, the EAP is not in a position to respond on behalf of the local authorities in this regard.</p>

We hope the above concerns have been addressed.

Kind Regards



Sibongile Gumbi

Environmental Assessment Practitioner
Mobility & Infrastructure

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Our reference:	MD6264-RHD-XX-XX-CO-X-0001	Email:	Sibongile.gumbi@rhdhv.com
Classification:	Project related		
Enclosures	N/A		

Dear Sirs

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) AND WATER USE AUTHORISATION (WUA) PROCESS FOR THE PROPOSED DEVELOPMENT OF A NEW MALTING PLANT SITED ON GRACEVIEW INDUSTRIAL PARK WITHIN THE MIDVAAL LOCAL MUNICIPALITY, IN SEDIBENG DISTRICT MUNICIPALITY, GAUTENG PROVINCE (REF Gaut 002/24-25/E0003): COMMENT RESPONSE

Your comments dated 02 October 2024 refers.

Prior to addressing the comments, it should be reiterated that the proposed Project is an acceleration of the natural process of germination in a controlled environment. No fermentation takes place in the malting process. Further to this, the malting plant is not an extension to the Sedibeng Heineken Brewery and both facilities are separate entities.

i. General Comments:

<p>1. Classifications of Alcohol as organic chemicals</p> <p>Alcohols are classified as organic chemicals because they contain carbon atoms and are derived from living organisms or can be synthesized from organic precursors. The general formula for alcohols is (ROH), where (R) is a hydrocarbon group, and (OH) is the hydroxyl group</p>	<ul style="list-style-type: none"> There are no alcohols used or produced from the malting process. The malt produced will be replacing malt currently utilised within the existing Heineken Brewery (separate facility). No fermentation will be taking place during the malting process at the proposed malt plant. There is often a confusion between this first transformation which is an acceleration of a
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(-OH). The presence of the hydroxyl group is a distinguishing feature of alcohols, making them part of the broader class of organic compounds that includes carbohydrates, lipids, and proteins.

Classification as Organic Chemicals:

1. Carbon Backbone: Alcohols, like all organic compounds, are primarily composed of carbon (C) atoms. They also generally contain hydrogen (H) atoms and may include other elements like oxygen (O).
2. Hydroxyl Functional Group: The presence of the hydroxyl (-OH) group is a key feature of alcohols that differentiates them from other classes of organic chemicals. This functional group influences the chemical behaviour and properties of alcohols.
3. Nature and Sources: Alcohols can be found in nature (e.g., ethanol in fermented beverages) or produced synthetically. They play roles in biological processes and have numerous applications in pharmaceuticals, food, and industry.

Air Emission Pollutants:

1. Volatile Organic Compounds (VOCs): Many alcohols are volatile, meaning they can evaporate easily into the atmosphere. Alcohols like ethanol and isopropanol are classified as VOCs, which can contribute to air pollution when released into the environment.
2. Ozone Formation: VOCs, including alcohols, can participate in atmospheric chemical reactions that lead to the formation of ground-level ozone. This occurs when VOCs react with nitrogen oxides (NOx) in the presence of sunlight, which can lead to smog and have adverse health effects.
3. Direct Release: In industries that utilize alcohols as solvents or in chemical processes, there can be direct emissions of alcohol vapours into the atmosphere, contributing to local air pollution concerns.

natural process that happens in the fields (germination) and activities using the barley as raw material for the manufacture of alcoholic beverages.

2. Estimation of particulate matter (PM) and volatile organic compounds (VOCs) from a malting plant

Estimating air emissions of particulate matter (PM) and volatile organic compounds (VOCs) from a malting plant requires specific data about the processes involved, the types of grains used, and the technology implemented in the facility. However, I can provide a general framework for how you might approach estimating these emissions based on a production rate of 500 tons per year.

1. Particulate Matter (PM) Emissions

1.1. Sources of PM:

- Dust generated during grain handling (transport, milling, etc.).
- Particles from the drying process (including grain husks).

1.2. Estimation Approach:

- A rough estimate for PM emissions from malting plants can range from 0.5% to 2% of the total grain processed. This percentage can vary based on efficiency of dust control systems, types of grains, and processing methods.
- For 500 tons/year production:
 - Low estimate (0.5%): $500 \text{ tons} * 0.005 = 2.5 \text{ tons PM/year}$.
 - High estimate (2%): $500 \text{ tons} * 0.02 = 10 \text{ tons PM/year}$.

1.1. Sources of PM

1. The generation of PM from these sources has been considered in the Air Quality Impact Assessment (AQIA). PM emissions are generated during goods handling in dry phase. All conveying equipment is close type, connected and interlocked with aspiration systems that will catch and collect the dust.

1.2. Estimation Approach

- We are unsure as to the basis (i.e. the source) of the emission factors provided quoted by Sedibeng that have been estimated. The AQIA uses a PM calculation for the de-dusting system assumed that air moves through the silo and through a closed system (which would collect dust from grain receiving, sieving and the conveyor system) and exits through the bag filter (with an emission limit of 10mg/m^3). While the routing of the air flow does not affect the emissions calculated, the air flow used does. The model assumed that 3l/s/ton (http://storedgrain.com.au/wp-content/uploads/2013/07/GRDC-Aeration-Book-2013_Final.pdf) moves through the system in a continuous manner (24/7/365). This results in an overestimation of the air flow when compared to the updated estimated provided by the Engineering Team which

	<p>assumes 70% workload and 4380 hours of operation per annum and an accurate calculation of the actual air flow required. The PM emissions utilized are therefore overestimated as 31.8t/a when compared with the actual expected emissions of 4t/a as calculated by the Engineering Team. The impacts that the AQIA has modelled are therefore likely to be overestimating the expected impact.</p>
<p>2. Volatile Organic Compounds (VOCs) Emissions</p> <p>2.1. Sources of VOCs:</p> <ul style="list-style-type: none"> ▪ Emissions can arise from the malting process itself, particularly during the drying phase, as well as from fermentation processes (if applicable). <p>2.2. Estimation Approach:</p> <ul style="list-style-type: none"> ▪ VOC emissions can vary widely based on the materials used, ranging from 0.1% to 0.5% of the total grain processed for smaller facilities. ▪ For 500 tons/year production: <ul style="list-style-type: none"> ○ Low estimate (0.1%): 500 tons * 0.001 = 0.05 tons VOC/year (~100 lbs) ○ High estimate (0.5%): 500 tons * 0.005 = 2.5 tons VOC/year. <p>2.3. Summary Estimate</p> <ul style="list-style-type: none"> ▪ Particulate Matter (PM) Emissions: 2.5 to 10 tons/year. ▪ Volatile Organic Compounds (VOCs) Emissions: 0.05 to 2.5 tons/year. 	<p>2.1. Sources of VOCs</p> <ul style="list-style-type: none"> ▪ VOCs can arise from the malting process and this was quantified using a conservative emission factor as set out in section 4.1.1 of the AQIA. In order to determine the ambient impact of potential VOC emissions, ambient fence-line monitoring is proposed as set out in section 5.7.1 of the AQIA. <p>2.2. Estimation Approach</p> <ul style="list-style-type: none"> ▪ We are unsure as to the basis (i.e. the source) of the emission factors provided by Sedibeng that have been estimated. <p>2.3. Summary Estimate</p> <ul style="list-style-type: none"> ▪ We are unsure as to basis of the figures quoted by Sedibeng that have been estimated.
<p>Important Considerations</p> <ol style="list-style-type: none"> 1. Regulatory Standards: Emissions can have regulatory limits. It's important to consider local environmental regulations when calculating potential emissions. 2. Control Technologies: The efficiency of emission control systems (such as baghouses, scrubbers, or cyclone separators) will significantly affect actual emissions. 	<ol style="list-style-type: none"> 1. The calculation of potential emissions was based on emission factors, emission limits provided by the Engineering Team as well as measurements from similar facilities (in the case of odour specifically) as set out in section 4.1.1 of the AQIA. 2. Source monitoring is recommended in section 5.7.2 of the AQIA to ensure that the abatement

<p>3. Operational Practices: Good housekeeping and operational practices can reduce dust emissions from grain handling and processing.</p> <p>4. Field Measurements: Ideally, you would want to measure emissions directly to get a more accurate value rather than relying solely on estimates.</p> <p>5. Continuing Studies and Local Data: Local or regional studies on similar facilities can provide more specific insights into expected emissions.</p> <p>This framework should provide a starting point for estimating PM and VOC emissions from a malting plant with a production capacity of 500 tons per year.</p>	<p>equipment functions according to design specifications.</p> <p>3. Facility-wide inspections will be undertaken to ensure that no excessive emissions occur is proposed in section 5.7.2 of the AQIA. A Maintenance Management Plan will be compiled that will outline good housekeeping and operational practices related to the Project.</p> <p>4. Fence-line monitoring is proposed in section 5.7.1. of the AQIA.</p> <p>5. Where possible, technological differences and operating principles should be considered when comparing the emissions from different facilities.</p>
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ii. Comments specific to the AQIA

a. General Overview:

The Air Quality Impact Assessment Report provides a comprehensive analysis of the potential impact of establishing a New Malting Plant in Sedibeng. The approach includes thorough meteorological data analysis, dispersion modelling, and assessment of ambient air quality standards (NAAQS), ensuring that the findings contribute to informed decision-making regarding air quality management and compliance.

<p>1. Compliance with Ambient Air Quality Standards:</p> <ul style="list-style-type: none"> ▪ The report indicates that concentrations of SO₂, NO₂, and CO comply with short-term standards. However, daily concentrations of PM₁₀ and PM_{2.5} are frequently above the applicable NAAQS. This suggests that while the facility may not significantly contribute to these pollutants, contributes to an already existing non-compliance issue. ▪ Recommendation: Continued monitoring of these pollutants is essential to ensure that compliance is maintained and to develop effective pollution mitigation strategies. 	<ul style="list-style-type: none"> ▪ To ensure that the facility does not have a significant ambient impact over and above the baseline impact, fence-line ambient monitoring and source monitoring is proposed in sections 5.7.1 and 5.7.2 of the AQIA. ▪ The AQIA recommends using passive diffusive monitoring at the fence-line.
<p>2. Odour Management:</p> <ul style="list-style-type: none"> ▪ The assessment notes potential for increased odour impacts, particularly at receptors to the south and southwest of the facility, primarily due 	<ul style="list-style-type: none"> ▪ Proposed measures have been included in section 5.7.1. of the AQIA. It is recommended that an odour complaints register be kept, and all complaints received

<p>to kiln emissions. Odour nuisance is projected to affect nearby communities.</p> <ul style="list-style-type: none"> ▪ Recommendation: Implementation of an odour management plan, including complaints register and a proactive monitoring and mitigation strategy, is crucial. Consideration should be given to technological upgrades that can minimize odours, especially during peak operational times. 	<p>noted, investigated and corrective action taken, where appropriate. This measure is also included in the Environmental and Social Management Plan (ESMP). Any corrective action taken should be noted in the register. Corrective actions may include technological upgrades if required.</p>
<p>3. Particulate Matter Emissions:</p> <ul style="list-style-type: none"> ▪ The report identifies barley intake, storage, and drying as the primary sources of particulate emissions. The assumption of continuous emissions at a ceiling level may lead to overestimation. ▪ Recommendation: Implement enhanced dust control measures, such as the use of water sprays or dust suppressants, especially during dry seasons. Additionally, actual emissions data should be collected post-installation to validate the assumptions made in the report. 	<ul style="list-style-type: none"> ▪ Dust management is critical to the safe operation of the facility due to the explosion hazard of fine dust particles. Abatement is to be installed to ensure that emissions are below 10mg/m³, as set out in the AQIA. It must be noted that there is no PM from the drying process. The malt plant is equipped with a de-dusting system based on bag filters. ▪ The AQIA also caters for a paved access road, based on information provided by the Engineering Team.
<p>4. Impact of Other Local Sources:</p> <ul style="list-style-type: none"> ▪ The facility will operate within a challenging air quality context given existing local background pollution from industries, vehicle emissions, and domestic fuel combustion. ▪ Recommendation: A collaborative regional air quality management approach might be beneficial. Engaging with local government and nearby industries to align pollution reduction initiatives can mitigate cumulative impacts. 	<ul style="list-style-type: none"> ▪ The malt plant will fall within the Vaal Triangle Airshed Priority Area (VTAPA) an area with a focus on regional approach to air quality management. The Applicant's (Soufflet Malt) designated Environmental Manager should join the Sedibeng District Municipality (SDM) Integrated Task Team (ITT) and the Multi-Stakeholder Reference Group (MSRG) meetings to collaborate with local government and industries to ensure alignment in management, measurement, and mitigation of air pollution.
<p>5. Long-term Monitoring and Reporting:</p> <ul style="list-style-type: none"> ▪ The report suggests regular ambient air quality monitoring and detailed reporting of NO₂ and PM10 levels, along with maintaining records of odour complaints and corrective actions taken. ▪ Recommendation: Establish a continuous air quality monitoring station near the facility to provide real-time data. This can improve 	<ul style="list-style-type: none"> ▪ The Kliprivier monitoring station (continuous monitoring) is located in close proximity to the facility and can provide insight into the ambient pollutant levels in the area. <p>Odour impacts are subjective and therefore complaints must be considered and addressed even if no standards were</p>

<p>transparency and community trust, while also enabling swift responses to any exceedances.</p>	<p>exceeded for specific components contributing to the odour impact.</p>
<p>6. Buffer Zones:</p> <ul style="list-style-type: none"> ▪ The report recommends a minimal buffer zone of 100m to 250m from the facility, classifying it as a Category 2 industry. The presence of sensitive receptors within the buffer raises concerns regarding health impacts. ▪ Recommendation: It may be prudent to explore and implement stricter buffer zone policies or community guidelines to protect nearby residences and schools from potential emissions. 	<ul style="list-style-type: none"> ▪ The sensitive receptors identified are listed in Table 1-1 of the AQIA. These receptors do not fall within the recommend buffer zone. It is acknowledged that communities should be protected from potential emissions and measures to do so have been proposed in sections 5.7.1. and 5.7.2. of the AQIA and in the ESMP.
<p>7. Cumulative Impact Assessments:</p> <ul style="list-style-type: none"> ▪ While the individual impact assessments have been evaluated, the report should have included a cumulative impact assessment considering the interactions of multiple pollutant sources in the area. ▪ Recommendation: A more robust cumulative assessment should be conducted to account for both existing and proposed developments within the Sedibeng region to understand the broader air quality implications. 	<ul style="list-style-type: none"> ▪ Cumulative impacts are acknowledged by considering the measured ambient pollutant concentrations from the Kliprivier air quality monitoring station. The ambient data indicates that PM2.5, PM10 and ozone standards are exceeded in the area. The potential impact from PM emissions from the facility is shown in section 5.1.5.2 of the AQIA. While the PM impacts are expected to result in exceedences of the NAAQS, the impact would be cumulative to the exceedences already being measured, as acknowledged by the impact significance ratings in section 5.6 of the AQIA. Measures to limit PM emissions from the facility are proposed in sections 5.7.1. and 5.7.2. of the AQIA. ▪ Table 5.11 in the AQIA has been amended to illustrate the 'additive' effect of the malt plant at the monitoring station as a quantitative basis to the cumulative impact rating. The cumulative impact can still be considered medium, as any additional emissions will occur in an area where short term exceedences of PM are present due to other sources of emissions. However, in practice, a significant cumulative PM impact is not expected if the plant is operating within the design parameters.

<p>8. Mitigation Measures:</p> <ul style="list-style-type: none">▪ The report provides initial mitigation measures but lacks specificity regarding implementation.▪ Recommendation: Detailed plans, stakeholder engagement, and strategies for regular reviews of mitigation measures should be developed to ensure effective air quality management post-implementation.	<ul style="list-style-type: none">▪ A recommendation for the development of a detailed Air Quality Management Plan (AQMP), including appropriate management, measurement and mitigation measures, has been added to section 5.7.3 of the AQIA and the ESMP.
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We hope the above responses have addressed the concerns.

Kind Regards



Sibongile Gumbi

Environmental Assessment Practitioner
Southern Africa

Project related



Appendix D: **Impact Ratings**

IMPACT ASSESSMENT TABLE

1. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASES

1.1 Geotechnical

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Earthworks and construction.</p> <p>Impacts:</p> <ul style="list-style-type: none"> ▪ Formation of sinkholes. 	<p>Duration: Permanent (-5) Scale: Site (-1) Magnitude: High (-8) Probability: High (-4)</p> <p>Significance: Moderate (-56)</p>	<ul style="list-style-type: none"> ▪ A Dolomite Stability Report should be compiled prior to building plan approval. ▪ A Dolomite Risk Management Plan must be compiled by a competent person and submitted to the Council for Geoscience (CGS) for their approval. A competent person must also inspect the excavation during construction and submit a construction report to the CGS. ▪ Portions of the site is classified as dolomite D4 area designation, as such a Competence Level 4 [L4 Geo-professional] will be included in the team. 	<p>Duration: Long-term (-4) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Medium (-3)</p> <p>Significance: Moderate (-33)</p>	Medium

1.2 Geohydrology

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Earthworks and construction.</p> <p>Impacts: Vadose zone soils and subsequent groundwater table:</p> <ul style="list-style-type: none"> Disturbing vadose zone during soil excavations/construction activities. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Only excavated areas apply to the Project area. Backfill the material in the same order it was excavated to reduce contamination of deeper soils with shallow oxidised soils. Cover excavated soils with a temporary liner to prevent contamination. Retain as much indigenous vegetation as possible. Exposed soils are to be protected using a suitable covering or revegetating. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium
Construction	<p>Aspect: Earthworks and construction.</p> <p>Impacts: Vadose zone soils and subsequent groundwater table:</p> <ul style="list-style-type: none"> Poor quality seepage from machinery used to excavate soils. Oil, grease, and fuel leaks could lead to hydrocarbon contamination of the vadose zone - which could percolate into the shallow aquifer. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park heavy machinery in lined areas and place drip trays under vehicles at the site. Visual soil assessments for signs of contamination during construction (monthly). 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Earthworks and construction.</p> <p>Impacts: Groundwater aquifer:</p> <ul style="list-style-type: none"> ▪ Poor quality seepage from machinery used to excavate soils. Oil, grease, and fuel leaks could lead to hydrocarbon contamination of the vadose zone - which could percolate into the shallow aquifer. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> ▪ Park heavy machinery in lined areas and place drip trays under vehicles at the site. ▪ Have fuel and oil spill cleanup kits on site and clean up these areas immediately. ▪ Ensure that building material stockpiles are covered with a suitable temporary cover or placed in bunded areas to reduce poor-quality seepage probability. ▪ Visual soil assessments for signs of contamination during construction (monthly). 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium
Operations	<p>Aspect: Storage of wastewater and processing thereof.</p> <p>Impact: Vadose zone soils:</p> <ul style="list-style-type: none"> ▪ Poor quality seepage from the on-site effluent storage facilities and WWTP. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> ▪ Park heavy machinery in lined areas and place drip trays under vehicles at the site. ▪ Visual soil assessments for signs of contamination on site. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium
Operations	<p>Aspect: Vehicles and trucks are parked and accessing the site.</p>	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6)</p>	<ul style="list-style-type: none"> ▪ Have fuel cleanup kits available on site. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
	Impact: Vadose zone soils: <ul style="list-style-type: none"> Poor quality runoff into the environment (if hydrocarbon contamination takes place at the site). The impact will be on local soils as there are no watercourses associated with the site. 	Probability: Definite (-5) Significance: Moderate (-50)	<ul style="list-style-type: none"> Ensure that stormwater is monitored annually for contaminants. 	Probability: Low (-2) Significance: Low (-16)	
<i>Operations</i>	Aspect: Dewatering. Impact: Regional groundwater table/groundwater aquifer: <ul style="list-style-type: none"> Over abstraction of groundwater at the proposed boreholes at the site. 	Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5) Significance: Moderate (-50)	<ul style="list-style-type: none"> Do not abstract more than what is required, or as determined by the borehole sustainable yield testing. Ensure that the borehole collar is protected, to prevent any environmental runoff into the borehole. 	Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2) Significance: Low (-16)	Medium

1.3 Hydrology

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	Aspect: Earthworks and construction. Impacts: Vadose zone soils and subsequent groundwater table: <ul style="list-style-type: none"> Disturbing vadose zone during soil excavations/construction activities. 	Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5) Significance: Moderate (-50)	<ul style="list-style-type: none"> Only excavated areas apply to the Project area. Backfill the material in the same order it was excavated to reduce contamination of deeper soils with shallow oxidised soils. Cover excavated soils with a temporary liner to prevent contamination. 	Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Improbable (-1) Significance: Low (-8)	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<ul style="list-style-type: none"> Retain as much indigenous vegetation as possible. Exposed soils are to be protected using a suitable covering or revegetating. 		
Construction	<p>Aspect: Earthworks and construction</p> <p>Impacts: Vadose zone soils and subsequent groundwater table:</p> <ul style="list-style-type: none"> Poor quality seepage from machinery used to excavate soils. Oil, grease, and fuel leaks could lead to hydrocarbon contamination of the vadose zone - which could percolate into the shallow aquifer. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park heavy machinery in lined areas and place drip trays under vehicles at the site. Visual soil assessments for signs of contamination during construction (monthly). 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium
Operations	<p>Aspect: Storage of wastewater and processing thereof.</p> <p>Impact: Vadose zone soils:</p> <ul style="list-style-type: none"> Poor quality seepage from the on-site effluent storage facilities and WWTP. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park heavy machinery in lined areas and place drip trays under vehicles at the site. Visual soil assessments for signs of contamination on site. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: [Low (-16)]</p>	Medium
Operations	<p>Aspect: Vehicles and trucks are parked and accessing the site.</p> <p>Impact: Vadose zone soils:</p>	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance:</p>	<ul style="list-style-type: none"> Have fuel cleanup kits available on site. Ensure that stormwater is monitored annually for contaminants. 	<p>Duration: Medium-term (-3) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance:</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
	<ul style="list-style-type: none"> Poor quality runoff into the environment (if hydrocarbon contamination takes place at the site). The impact will be on local soils as there are no watercourses associated with the site. 	Moderate (-50)		Low (-16)	

1.4 Noise

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Construction activities: day-time.</p> <p>Impacts: Noise impacts.</p>	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	<ul style="list-style-type: none"> Considering the ambient sound levels measured, the developmental character of the area as well as audible observations, the recommended day-time zone sound level is 50dBA. The upper noise limit at NSR would be 55dBA (as per IFC's recommended noise limit for residential use). All employees and contractors should receive Health and Safety induction that includes an environmental awareness component (noise). This is to allow employees and 	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<p>contractors to the potential noise risks that activities (especially night-time activities) pose to the realise surrounding environment.</p> <ul style="list-style-type: none"> ▪ The Applicant must implement a line of communication (i.e., a helpline where complaints could be lodged). All potential sensitive receptors should be made aware of these contact numbers, or alternative means to communicate issues. The plant should maintain a commitment to the local community and respond to concerns in an expedient fashion. Sporadic and legitimate noise complaints could develop and if valid, should be investigated. Feedback must be provided to the affected stakeholder(s) with details of any steps taken to mitigate the impact (if valid complaint) or preventative steps to minimise this from happening again. 		

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<ul style="list-style-type: none"> The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the processing plant. 		
<i>Construction</i>	<p>Aspect: Construction activities: night-time.</p> <p>Impacts: Noise impacts.</p>	<p>Duration: Short-term (-2) Scale: Regional (-3) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-18)</p>	<ul style="list-style-type: none"> Considering the ambient sound levels measured, the developmental character of the area as well as audible observations, the recommended night-time zone sound level was 40dBA, with a night-time noise limit of 45dBA. Refer to mitigation measure include for noise impacts during the day-time. 	<p>Duration: Short-term (-2) Scale: Regional (-3) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-18)</p>	Medium
<i>Operations</i>	<p>Aspect: Operational activities: day-time.</p> <p>Impacts: Noise impacts.</p>	<p>Duration: Permanent (-5) Scale: Local (-2) Magnitude: Minor (-2) Probability: Low (-2)</p> <p>Significance: Low (-18)</p>	<ul style="list-style-type: none"> Considering the ambient sound levels measured, the developmental character of the area as well as audible observations, the recommended daytime zone sound level is 50dBA. The upper noise limit at NSR would be 55dBA (as per IFC's recommended 	<p>Duration: Permanent (-5) Scale: Local (-2) Magnitude: Minor (-2) Probability: Low (-2)</p> <p>Significance: Low (-18)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<p>noise limit for residential use).</p> <ul style="list-style-type: none"> The continued commitment to consider the potential sensitivity of the surrounding communities to increased noises. Management measures as highlighted for the construction phase should continue. The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the plant. 		
Operations	<p>Aspect: Operational activities: night-time.</p> <p>Impacts: Noise impacts.</p>	<p>Duration: Permanent (-5) Scale: Regional (-3) Magnitude: Moderate (-6) Probability: Low (-2)</p> <p>Significance: Low (-28)</p>	<ul style="list-style-type: none"> Considering the ambient sound levels measured, the developmental character of the area as well as audible observations, the recommended night-time zone sound level was 40dBA, with a night-time noise limit of 45dBA. The continued commitment to consider the potential sensitivity of the surrounding communities to increased noises. Management 	<p>Duration: Permanent (-5) Scale: Regional (-3) Magnitude: Moderate (-6) Probability: Low (-2)</p> <p>Significance: Low (-28)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			measures as highlighted for the construction phase should continue. The plant must investigate any reasonable and valid noise complaint if registered by a receptor staying within 1,000m from the plant.		

1.5 Traffic

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	Aspect: Construction activities. Impact: <ul style="list-style-type: none"> Deterioration of road network condition. 	Duration: Long-term (-4) Scale: Local (-2) Magnitude: Moderate (-6) Probability: Definite (-5) Significance: Moderate (-60)	<ul style="list-style-type: none"> The condition of the R550 East/West, R550 North/South and access road to be monitored by the relevant parties and remedial actions to be implemented to maintain an acceptable road conditions. The movement of materials and equipment by trucks can be phased through the day to the reduce the impact the trucks have on traffic congestion. The delivery of materials/equipment by abnormal vehicles, if required, should be scheduled during off-peak periods in order to have the least impact on traffic conditions. The road safety conditions to be monitored by Traffic Police on the R550 East/West and R550 North/South intersection, this will increase the road safety and minimize the risk of accidents along this section of the road. The proposed dedicated taxi parking layby near the facility gate will reduce congestion on the R550 East/West and R550 	Duration: Long-term (-4) Scale: Local (-2) Magnitude: Minor (-2) Probability: Definite (-5) Significance: Moderate (-40)	Medium
<i>Construction</i>	Aspect: Construction activities. Impact: <ul style="list-style-type: none"> Increase in traffic volumes. 	Duration: Long-term (-4) Scale: Local (-2) Magnitude: Moderate (-6) Probability: Definite (-5) Significance: Moderate (-60)	<ul style="list-style-type: none"> The road safety conditions to be monitored by Traffic Police on the R550 East/West and R550 North/South intersection, this will increase the road safety and minimize the risk of accidents along this section of the road. The proposed dedicated taxi parking layby near the facility gate will reduce congestion on the R550 East/West and R550 	Duration: Long-term (-4) Scale: Local (-2) Magnitude: Minor (-2) Probability: Definite (-5) Significance: Moderate (-40)	Medium
<i>Construction</i>	Aspect: Construction activities Impact Deterioration of road safety conditions.	Duration: Long-term (-4) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5) Significance: Moderate (-55)	<ul style="list-style-type: none"> The proposed dedicated taxi parking layby near the facility gate will reduce congestion on the R550 East/West and R550 	Duration: Long-term (-4) Scale: Site (-1) Magnitude: Minor (-2) Probability: Definite (-5) Significance: Moderate (-35)	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impact: Environmental impact - emissions.</p>	<p>Duration: Long-term (-4) Scale: National (-4) Magnitude: Low (-4) Probability: High (-4)</p> <p>Significance: Moderate (-48)</p>	<p>North/South intersection and R550 East/West intersection with the access road (Unknown road).</p> <ul style="list-style-type: none"> ▪ The transportation of employees either with company shuttle or a combination of a public taxi and a shuttle service will reduce the congestion on the local road network as dedicated vehicles will be transporting employees to the facility rather than general public transport vehicles which may be transporting fewer employees each resulting in increased volumes. ▪ The provision of the dedicated taxi parking layby near the facility gate will also reduce the number of pedestrians on the R550 East/West, R550 North/South, and access road, thereby reducing road safety risks to both pedestrians and drivers. ▪ The suggested provision of Non-Motorised Transport (NMT) facilities in the form of a paved sidewalk on the property frontage and along the access road will also increase road safety for both pedestrians and drivers as well as improve the pedestrian-friendliness of the area as a whole. 	<p>Duration: Long-term (-4) Scale: National (-4) Magnitude: Minor (-2) Probability: High (-4)</p> <p>Significance: Moderate (-40)</p>	Medium

1.6 Heritage and Palaeontology

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impact:</p> <ul style="list-style-type: none"> Loss of fossil heritage by destruction, moving and sealing in fossils below ground surface so that they are no longer available for scientific research. 	<p>Duration: Permanent (-5) Scale: Site (-1) Magnitude: Moderate (-6) Probability: High (-4)</p> <p>Significance: Moderate (-48)</p>	<ul style="list-style-type: none"> If significant fossil remains are discovered during any phase of construction, either on the surface or exposed by excavations the Chance Find Protocol must be implemented by the Environmental Site Officer. If a chance find is made, the person responsible for the find must immediately stop working, and all work in the immediate vicinity of the find must stop as well. The individual who discovered the item must immediately notify his or her direct supervisor, who must then notify his or her management and the ESO. The ESO must notify the relevant Heritage Agency (South African Heritage Resources Agency, SAHRA) of the discovery (Contact information: SAHRA DAU (Stephen van den Heever svandenheever@sahra.org.za, Natasha Higgitt 021 202 8660/nhiggitt@sahra.org.za). Web address: www.sahra.org.za). Photographs of the find from various perspectives, as well as GPS coordinates, must be submitted to the Heritage Agency. Within 24 hours of the discovery, a preliminary report must be sent to the Heritage Agency, which must include the following: 1) the date of finding; 2) a description of the discovery; and 3) a description of the fossil and its context 	<p>Duration: Permanent (-5) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-20)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<p>(depth and position of the fossil), as well as GPS coordinates.</p> <ul style="list-style-type: none"> If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA DAU (Stephen van den Heever svandenheever@sahra.org.za, Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted as per section 35(3) of the NHRA. Noncompliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule. If unmarked human burials are uncovered, the SAHRA DAU (Natasha Higgitt 021 202 8660/ nhiggitt@sahra.org.za) must be alerted immediately as per section 36(6) of the NHRA. Noncompliance with this section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule. 		
Construction	<p>Aspect Construction activities.</p> <p>Impact: Damage/destruction to archaeological heritage.</p>	<p>Duration: Permanent (-5) Scale: Site (-1) Magnitude: Minor (-2) Probability: Medium (-3)</p> <p>Significance: Low (-24)</p>	<ul style="list-style-type: none"> Implement a Chance to Find procedure in case where possible heritage finds are uncovered. 	<p>Duration: Permanent (5) Scale: Site (1) Magnitude: Low (2) Probability: Low (2)</p> <p>Significance: Low (-16)</p>	Medium

1.7 Socio-economic

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Construction activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Direct and indirect employment opportunities and skills development. 	<p>Duration: Short-term (2) Scale: Regional (3) Magnitude: Low (4) Probability: Medium (3)</p> <p>Significance: Low (+27)</p>	<ul style="list-style-type: none"> Prioritise hiring from the local community to boost local employment. The Developers should be committed to involving and benefiting the communities surrounding the Project, contributing to their development and growth. The communities which are most in need of employment on a local level should be considered for employment before outsourcing. Engage proactively with local stakeholders and implement transparent hiring practices to ensure equitable distribution of employment opportunities. Regularly communicate with the community about job opportunities and Project progress. 	<p>Duration: Short-term (2) Scale: Local (2) Magnitude: Moderate (6) Probability: High (4)</p> <p>Significance: Moderate (+40)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Economic multiplier effects. 	<p>Duration: Short-term (2)</p> <p>Scale: Regional (3)</p> <p>Magnitude: Low (4)</p> <p>Probability: Medium (3)</p> <p>Significance: Low (+27)</p>	<ul style="list-style-type: none"> Preference should be given to local suppliers, where applicable. Establishing liaison and communication structures with the district and local government structures. It is recommended that a local procurement policy be adopted by the Developer to maximise the benefit to the local economy, where feasible. Create job opportunities, boost local economies by supporting business activities, and contribute to government tax revenues through the development of the Project. Prior to the start of the construction contractor procurement, a database of local companies, specifically Historically Disadvantaged (HD) companies, that qualify as potential service providers (e.g., construction companies, catering companies, waste collection companies, security companies, etc) should be identified and informed about the tender process and invited to bid on Project-related work, if applicable. Engage with local authorities and business organisations to investigate the feasibility of obtaining construction materials, goods, and products from local suppliers, where possible. 	<p>Duration: Short-term (2)</p> <p>Scale: Local (2)</p> <p>Magnitude: Moderate (6)</p> <p>Probability: High (4)</p> <p>Significance: Moderate (+40)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Construction activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Influx of jobseekers and change in population. 	<p>Duration: Short-term (-2) Scale: Regional (-3) Magnitude: Low (-4) Probability: High (-4)</p> <p>Significance: Moderate (-36)</p>	<ul style="list-style-type: none"> The communities which are most in need of employment on a local level should be considered for employment before outsourcing. Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. Encourage employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions. Prioritising local hiring to reduce the influx of external job seekers and support community development. 	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Low (-4) Probability: Medium (-3)</p> <p>Significance: Low (-24)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> ▪ Safety and security. 	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Moderate (-6) Probability: Medium (-3)</p> <p>Significance: Moderate (-30)</p>	<ul style="list-style-type: none"> ▪ Safety awareness and training as well as positive behaviour reinforcement. ▪ Improving system monitoring and analysis to improve risk management. ▪ Making the surrounding landowners aware of the dangers associated with the influx of workers during the construction period. ▪ Ensuring that access cannot be gained to surrounding properties. ▪ Encourage employees to stop working when a workplace is considered unsafe and/or to prevent unsafe actions. ▪ Access in and out of the construction area should be strictly controlled. ▪ The Contractor must provide adequate firefighting equipment on site and provide firefighting training to selected construction staff. ▪ Have clear rules and regulations for access to the proposed site to control loitering. ▪ A comprehensive employee induction programme would cover land access protocols, fire management and road safety must be prepared. ▪ A Community Liaison Officer should be appointed. ▪ The grievance mechanism should be implemented whereby procedures to lodge complaints are set out in order for the local community to express any complaints or grievances with the construction process. 	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Nuisance impacts, including noise and dust. 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Moderate (-6) Probability: Definite (-5)</p> <p>Significance: Moderate (-40)</p>	<ul style="list-style-type: none"> Plant equipment such as generators, compressors, concrete mixers, and vehicles should be kept in good working order and, where possible, equipped with effective exhaust mufflers. Implement a construction communication plan to keep the local community informed about construction schedules, disruptions, and progress. Provide clear signage and alternative routes to manage traffic effectively and ensure safe pedestrian access. Schedule construction activities during less disruptive times, where possible. Engage with local businesses and residents to understand and address specific concerns related to the construction. Rapid response team to address any emergent issues related to construction activities, ensuring quick resolution. Dust suppression measures should be implemented on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers. 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (4) Probability: High (-4)</p> <p>Significance: Low (-28)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operational activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Direct and indirect employment opportunities. 	<p>Duration: Long-term (4) Scale: Regional (3) Magnitude: Moderate (6) Probability: Medium (3)</p> <p>Significance: Moderate (+39)</p>	<ul style="list-style-type: none"> Prioritise hiring from the local community for all available positions. This will ensure that the benefits of employment are directly felt within the local community. In cases where highly skilled expertise is required, provide provisions for skills transfer. This will facilitate knowledge sharing within the local workforce and enhance the overall skill level of the community. Encourage the involvement of local businesses in providing materials, goods, and services during the operational phase of the Project. This can stimulate entrepreneurial growth and create indirect job opportunities. 	<p>Duration: Long-term (4) Scale: Regional (3) Magnitude: High (8) Probability: High (4)</p> <p>Significance: Moderate (+60)</p>	Medium
Operations	<p>Aspect: Operational activities.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Economic multiplier effects. 	<p>Duration: Long-term (4) Scale: Regional (3) Magnitude: Low (4) Probability: Medium (3)</p> <p>Significance: Moderate (+33)</p>	<ul style="list-style-type: none"> Refer to construction mitigation measures for economic multiplier effects. 	<p>Duration: Long-term (4) Scale: Regional (3) Magnitude: Moderate (6) Probability: High (4)</p> <p>Significance: Moderate (+52)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operational activities</p> <p>Impacts:</p> <ul style="list-style-type: none"> Occupational health and safety. 	<p>Duration: Long-term (-4) Scale: Local (-2) Magnitude: Moderate (-6) Probability: High (-4)</p> <p>Significance: Moderate (-48)</p>	<ul style="list-style-type: none"> Develop an Occupation Health and Safety Plan as well as a Community Health and Safety Plan for the Project. Conduct regular safety training and drills for all employees and contractors. Provide personal protective equipment (PPE) and ensure its proper use. Establish health monitoring programs to detect and manage occupational illnesses. Implement safety protocols and emergency response plans. Foster a safety culture through continuous education and awareness programs. 	<p>Duration: Long-term (-4) Scale: Local (-2) Magnitude: Low (-4) Probability: Medium (-3)</p> <p>Significance: Moderate (-30)</p>	Medium

1.8 Air Quality

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operation of the malt plant.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Increase in hourly and annual ambient NO₂ concentrations. 	<p>Note - For this study it was assumed that the control equipment such as filters were part of the design of the facility and not additional mitigation. The impacts were evaluated</p>	<ul style="list-style-type: none"> It is recommended that an annual short-term (14-day) monitoring using passive diffusive sampling techniques for NO₂, VOCs, and PM₁₀ should be undertaken at three locations on the site boundary to ensure that compliance with NAAQS is maintained at the site boundary. <u>This should be</u> 	<p>Duration: Short-term (-2) Scale: Local (-2) Magnitude: Minor (-2) Probability: Medium (-3)</p> <p>Significance: Low (-18)</p>	Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operation of the malt plant.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Increase in hourly and annual ambient PM concentrations. 	<p>under conservative operation assumptions, which are likely to overestimate the air quality impacts of the facility. The ratings therefore apply to a conservative scenario which includes mitigation and therefore no additional mitigation is considered necessary.</p>	<p><u>undertaken prior to commissioning – to establish a site baseline - and after commissioning to show the cumulative impact of the facility.</u></p> <ul style="list-style-type: none"> It is recommended that the facility monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint. It is further recommended that facility-wide inspections of all sources of fugitive emission sources be conducted and if any of the sources of dust are not being reasonably controlled, corrective action be taken. It is recommended that a comprehensive air quality management plan (AQMP) be developed that incorporates the recommendations contained in this ESMP. The AQMP should contain detailed plans for the implementation of all the recommendations contained in this ESMP and Air Quality Impact Assessment, provide for stakeholder engagement and detailed plans for the management of complaints. The AQMP should include provisions for regular reviews of mitigation measures. It is recommended that the AQMP be submitted to the regulator for review and approval prior to the commissioning of the facility. 		Medium

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operation of the malt plant.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Odour impacts at nearby receptors. 		<ul style="list-style-type: none"> It is recommended that an odour complaints register be kept, and all complaints received noted, investigated and corrective action taken, where appropriate. Any corrective action taken should be noted in the register. It is recommended that, if an on-site WWTP is commissioned, it be designed using best practice principles to reduce the impact of odours on surrounding communities. 	<p>Duration: Short-term (-2)</p> <p>Scale: Local (-2)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Medium (-3)</p> <p>Significance: Low (-24)</p>	Medium

<p><i>Operations</i></p>	<p>Aspect: Operation of the malt plant.</p> <p>Impacts:</p> <ul style="list-style-type: none"> ▪ Nuisance dust impacts at nearby receptors. 		<ul style="list-style-type: none"> ▪ It is recommended that the facility monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint. ▪ It is further recommended that facility-wide inspections of all sources of fugitive emission sources be conducted and if any of the sources of dust or odours are not being reasonably controlled, corrective action be taken. ▪ It is recommended that maintenance of the baghouses be performed if visible emissions exceed 0% opacity. In addition, the pressure drop across the baghouses is required to be maintained within manufacturer and the operation and maintenance manual specifications. ▪ It is recommended that performance tests on the baghouse(s) to ensure that the emission limit of 10 mg/m³ is not exceeded. ▪ PM_{2.5} as well as PM₁₀ should be measured to provide more accurate data for future assessments. It is recommended that as minimum the following emission sources be monitored periodically for PM emissions: <ul style="list-style-type: none"> ○ all baghouse sources; and, ○ kilns. ▪ It is further recommended that performance testing be conducted to ensure that the following equipment achieve the performance standard set by the manufacturer for NOx emissions: <ul style="list-style-type: none"> ○ CHP units; and, 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-2) Probability: Low (-2)</p> <p>Significance: Low (-10)</p>	<p>Medium</p>
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Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<ul style="list-style-type: none"> ○ <u>boilers.</u> ▪ <u>It is recommended that a comprehensive air quality management plan (AQMP) be developed. The AQMP should contain detailed plans for the implementation of all the recommendations contained in the ESMP and Air Quality Impact Assessment, provide for stakeholder engagement and detailed plans for the management of complaints. The AQMP should include provisions for regular reviews of mitigation measures. It is recommended that the AQMP be submitted to the regulator for review and approval prior to the commissioning of the facility.</u> ▪ <u>A Maintenance Management Plan must be compiled that will outline good housekeeping and operational practices related to dust and emissions.</u> 		

1.9 Climate Change

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Operations	<p>Aspect: Operation of the malt plant.</p> <p>Impacts:</p> <ul style="list-style-type: none"> Contribution to the remaining South African Carbon budget. 	<p>Note: Since climate change is a global phenomenon, the assessment criterion is not fully applicable to an assessment of the impacts of GHG emissions on climate change. However, the criterion is currently the best tool for the climate change impact analysis.</p>	<ul style="list-style-type: none"> It is recommended lower fuel use or use alternative lower-carbon fuels be used for the Project. Other alternatives could be investigated, for example photovoltaic solar to meet some heat and electricity demands, reducing the quantities of gas combusted in the CHP units. 	<p>Duration: Long-term (-4) Scale: National (-4) Magnitude: Minor (-2) Probability: High (-4)</p> <p>Significance: Moderate (-40)</p>	Medium
Operations	<p>Aspect: Operational activities associated with the Project and local communities.</p> <p>Impacts: Climate change impact risks to the Project (increased temperatures, heat stress, and wildfires).</p>	<p>Note: Since climate change is a global phenomenon, the assessment criterion is not fully applicable to an assessment of the impacts of GHG emissions on climate change. However, the criterion is currently the best tool for the climate change impact analysis.</p>	<ul style="list-style-type: none"> Emergency plans should include the risk of responding to and managing of uncontrolled wildfires potentially crossing the Project fence line where cover vegetation could be ignited. From an adaption perspective, additional support infrastructure can reduce the climate change impact on the employees. For example, improving the thermal and electrical efficiency of buildings to reduce electricity consumption for air conditioning, ensuring adequate water supply for staff drinking water, amending summer operating hours to avoid the hottest part of the day and potential health and safety impacts for employees, having shaded green rest areas for employees during their shift breaks. 	<p>Duration: Permanent (-5) Scale: National (-4) Magnitude: Moderate (-6) Probability: Medium (-3)</p> <p>Significance: Moderate (-45)</p>	Medium

1.10 Dust and Emissions

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Construction	<p>Aspect: Construction activities (site clearing; excavations, drilling, operation of vehicles, equipment etc.)</p> <p>Impacts:</p> <ul style="list-style-type: none"> Dust and emissions during construction. 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Moderate (-6) Probability: High (-4)</p> <p>Significance: Moderate (-36)</p>	<ul style="list-style-type: none"> Dust must be suppressed on the construction site as well as access roads and active working areas during dry periods by the regular application of water. Water used for dust suppression must be used in quantities that will not result in the generation of runoff. A Dust Suppression Register must be kept on-site. The Contractor should monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain records of all fugitive dust complaints received and the corrective action taken in response to the complaint. 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-4) Probability: Medium (-3)</p> <p>Significance: Low (-21)</p>	Low

1.11 Waste

Phase	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
<i>Construction</i>	<p>Aspect: Construction activities.</p> <p>Impact:</p> <ul style="list-style-type: none"> Waste generation during the construction phase will have a negative impact on the environment, if not controlled adequately. Waste includes general construction rubble, existing redundant infrastructure and hazardous waste (used oil, cement and concrete etc.). 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-4) Probability: High (-4)</p> <p>Significance: Low (-28)</p>	<ul style="list-style-type: none"> Implement a comprehensive waste management plan, including recycling, reuse, and proper disposal of waste materials. Adequate rubbish bins and waste disposal facilities must be provided on site and at the construction camp. The construction site must be kept clean and tidy and free from rubbish. Recycling/re-use of waste must be encouraged. No solid waste must be burned on site. Bins must be provided to all areas that generate waste e.g. worker eating and resting areas and the camp site. General refuse and construction material refuse must not be mixed. Should rubble be required as a raw material for the construction, it must be taken to a designated stockpile area - which must be approved by the ECO. Spoil material must be hauled to a designated spoil site. No spoil material must be pushed down slope or discarded on site. 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-14)</p>	Low

2. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Discipline	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
Geology	<p>Aspect: Poor quality seepage.</p> <p>Impact: Regional groundwater table/groundwater aquifer:</p> <ul style="list-style-type: none"> Any poor-quality seepage or runoff accumulation on the site, where it is allowed to percolate into the soils, could potentially impact the dolomitic aquifer water quality. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park vehicles in dedicated areas. Have fuel and oil spill cleanup kits on site and clean up these areas immediately. Pollution prevention and house cleaning should be considered at all times. Visual soil assessments for signs of contamination on site. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Low
	<p>Aspect: Rehabilitation.</p> <p>Impact: Vadose zone soils and subsequent aquifer (groundwater table):</p> <ul style="list-style-type: none"> Rehabilitation of the plant and associated facilities. 	<p>Duration: Medium-term (3)</p> <p>Scale: Site (1)</p> <p>Magnitude: High (3)</p> <p>Probability: Definite (5)</p> <p>Significance: Moderate (+35)</p>	<ul style="list-style-type: none"> No mitigation required. 	No rating.	Low

Discipline	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
	<p>Aspect: Rehabilitation.</p> <p>Impact: Vadose zone soils and subsequent aquifer (groundwater table):</p> <ul style="list-style-type: none"> Poor quality seepage from machinery used to decommission and rehabilitate the plant area. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park heavy machinery in lined areas and place drip trays under vehicles at the site. Visual soil assessments for signs of contamination during rehabilitation (monthly). 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Low (-2)</p> <p>Significance: Low (-16)</p>	Low
	<p>Aspect: Rehabilitation.</p> <p>Impact: Regional groundwater table/groundwater aquifer</p> <ul style="list-style-type: none"> Cession of dewatering activity and rebound of the groundwater table. 	<p>Duration: Medium-term (3)</p> <p>Scale: Site (1)</p> <p>Magnitude: High (3)</p> <p>Probability: Definite (5)</p> <p>Significance: Moderate (+35)</p>	<ul style="list-style-type: none"> No mitigation required. 	No rating.	Low
Hydrology	<p>Aspect: Rehabilitation</p> <p>Impact: Regional groundwater table/groundwater aquifer</p> <ul style="list-style-type: none"> Decommissioning of the borehole used for groundwater supply. 	<p>Duration: Medium-term (3)</p> <p>Scale: Site (1)</p> <p>Magnitude: High (3)</p> <p>Probability: Definite (5)</p> <p>Significance: Moderate (+35)</p>	<ul style="list-style-type: none"> No mitigation required. 	No rating.	Low
	<p>Aspect: Rehabilitation.</p> <p>Impact: Vadose zone soils and subsequent aquifer (groundwater table):</p>	<p>Duration: Medium-term (+3)</p> <p>Scale: Site (+1)</p> <p>Magnitude: Moderate (+3)</p> <p>Probability: Definite (+5)</p> <p>Significance:</p>	<ul style="list-style-type: none"> No mitigation required. 	No rating.	Low

Discipline	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
	<ul style="list-style-type: none"> Rehabilitation of the plant and associated facilities. 	Moderate (+35)			
	<p>Aspect: Rehabilitation.</p> <p>Impact: Vadose zone soils and subsequent aquifer (groundwater table):</p> <ul style="list-style-type: none"> Poor quality seepage from machinery used to decommission and rehabilitate the mine operations. 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: Definite (-5)</p> <p>Significance: Moderate (-50)</p>	<ul style="list-style-type: none"> Park heavy machinery in lined areas and place drip trays under vehicles at the site. Visual soil assessments for signs of contamination during rehabilitation (monthly). 	<p>Duration: Medium-term (-3)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Improbable (-1)</p> <p>Significance: Low (-8)</p>	Low
Dust and Emissions	<p>Aspect: Construction activities (site clearing; excavations, drilling, operation of vehicles, equipment etc.)</p> <p>Impacts:</p> <ul style="list-style-type: none"> Dust and emissions during construction. 	<p>Duration: Short-term (-2)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Moderate (-6)</p> <p>Probability: High (-4)</p> <p>Significance: Moderate (-36)</p>	<ul style="list-style-type: none"> Dust must be suppressed on the construction site as well as access roads and active working areas during dry periods by the regular application of water. Water used for dust suppression must be used in quantities that will not result in the generation of runoff. A Dust Suppression Register must be kept on-site. The Contractor should monitor and maintain records of the frequency and the methods used to control fugitive dust emissions and maintain 	<p>Duration: Short-term (-2)</p> <p>Scale: Site (-1)</p> <p>Magnitude: Low (-4)</p> <p>Probability: Medium (-3)</p> <p>Significance: Low (-21)</p>	Low

Discipline	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			records of all fugitive dust complaints received and the corrective action taken in response to the complaint.		
Waste	<p>Aspect: Construction activities.</p> <p>Impact:</p> <ul style="list-style-type: none"> Waste generation during the construction phase will have a negative impact on the environment, if not controlled adequately. Waste includes general construction rubble, existing redundant infrastructure and hazardous waste (used oil, cement and concrete etc.). 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-4) Probability: High (-4)</p> <p>Significance: Low (-28)</p>	<ul style="list-style-type: none"> Implement a comprehensive waste management plan, including recycling, reuse, and proper disposal of waste materials. Adequate rubbish bins and waste disposal facilities must be provided on site and at the construction camp. The construction site must be kept clean and tidy and free from rubbish. Recycling/re-use of waste must be encouraged. No solid waste must be burned on site. Bins must be provided to all areas that generate waste e.g. worker eating and resting areas and the camp site. General refuse and construction material refuse must not be mixed. Should rubble be required as a raw material for the construction, it must be taken to a designated 	<p>Duration: Short-term (-2) Scale: Site (-1) Magnitude: Low (-4) Probability: Low (-2)</p> <p>Significance: Low (-14)</p>	Low

Discipline	Aspect and Impact	Without Mitigation	Mitigation	With Mitigation	Risk of the impact and mitigation not being implemented
			<p>stockpile area - which must be approved by the ECO.</p> <ul style="list-style-type: none"> ▪ Spoil material must be hauled to a designated spoil site. No spoil material must be pushed down slope or discarded on site. 		