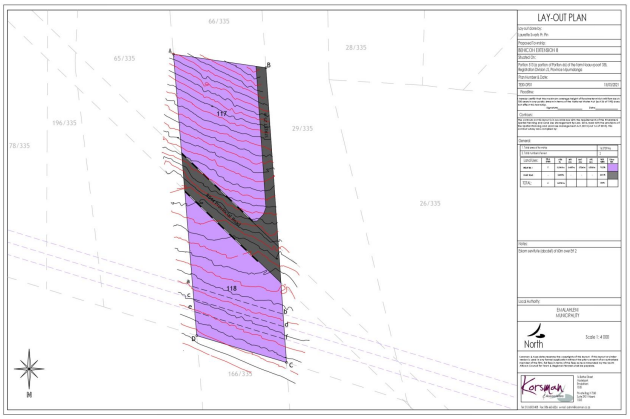
Client	**Mlangeni Family Trust**
Project	Township Establishment on Portion 513 of the Farm Naauwpoort 335 JS for Industrial Use - Environmental Management Programme
Date	April 2021

Labesh

ability to sustain



Township Establishment on Portion 513 of the Farm Naauwpoort 335 JS, for Industrial Use

Environmental Management Programme

EIA Ref No. To be confirmed upon submission of Application to the Competent Authority

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Labesh
sustainable, natural resource management

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DEFINITIONS

Alternatives
In relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the-

a) property on which or location where the activity is proposed to be undertaken;
b) type of activity to be undertaken;
c) design or layout of the activity;
d) technology to be used in the activity; or
e) operational aspects of the activity;
and includes the option of not implementing the activity.

Application
An application for an Environmental Authorisation (EA).

Basic Assessment Report
A report contemplated in regulation 21 of the EIA Regulations, 2014.

Buffer Area
Unless specifically defined, means an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively, or that defined as such for a biosphere.

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 [NEM:WA, Act No 59 of 2008].

Cumulative Impact
In relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Dangerous Good
Goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated “List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)” published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards.

Development
The building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, including any associated post development monitoring, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint.

Development footprint
Any evidence of physical alteration as a result of the undertaking of any activity.

EAP
An environmental assessment practitioner as defined in section 1 of NEMA.

EMPr
An environmental management programme contemplated in regulations 19 and 23 of the EIA Regulations, 2014.

Environment
The surroundings (biophysical, social and economic) within which humans exist and that are made up of:
(i) the land, water and atmosphere of the earth;
(ii) micro-organisms, plant and animal life;
(iii) any part or combination of (i) and (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 Impact
Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

Environmental Impact Assessment
A systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes Basic Assessment and Scoping and Environmental Impact Reporting.

General Waste
Means waste that does not pose immediate hazard or threat to health or to the environment, and includes:
a) domestic waste;
b) building and demolition waste;
c) business waste; and
d) inert waste [NEM:WA, Act No 59 of 2008].

Hazardous Waste
Means any waste that contains organic or inorganic elements compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have detrimental impact on health and the environment [NEM:WA, Act No 59 of 2008].

Independent
In relation to an EAP, a specialist or the person responsible for the preparation of an environmental audit report, means-
a) that such EAP, specialist or person has no business, financial, personal or other interest in the activity or application in respect of which that EAP, specialist or person is appointed in terms of the EIA Regulations; or
b) that there are no circumstances that may compromise the objectivity of that EAP, specialist or person in performing such work;
excluding -
(i) normal remuneration for a specialist permanently employed by the EAP; or
(ii) fair remuneration for work performed in connection with that activity, application or environmental audit.

Indigenous Vegetation
Vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

Industrial Complex
An area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes.

Land Use
The various ways in which land may be employed or occupied. Planners compile, classify, study and analyse land use data for many purposes, including the identification of trends, the forecasting of space and infrastructure requirements, the provision of adequate land area for necessary types of land use, and the development or revision of comprehensive plans and land use regulations.

Mitigation
To anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

Phased Activities
An activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity.

Pollution Prevention
Any activity that reduces or eliminates pollutants prior to recycling, treatment, control or disposal.

Public Participation Process
A process of involving the public in order to identify needs, address concerns, to contribute to more informed decision making relating to a proposed project, programme or development.

Registered Interested and Affected Party
In relation to an application, means an Interested and Affected Party whose name is recorded in the register opened for that application in terms of regulation 42 of the EIA Regulations, 2014.

Significant Impact
An impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence.

Specialist
A person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies.

Systematic Biodiversity Plan
A plan that identifies important areas for biodiversity conservation, taking into account biodiversity patterns (i.e. the principle of representation) and the ecological and evolutionary processes that sustain them (i.e. the principle of

persistence). A systematic biodiversity plan must set quantitative targets/thresholds for aquatic and terrestrial biodiversity features in order to conserve a representative sample of biodiversity pattern and ecological processes.

Topography
Topography, a term in geography, refers to the "lay of the land" or the physio-geographic characteristics of land in terms of elevation, slope and orientation.

Vegetation
All of the plant life growing in and characterizing a specific area or region; the combination of different plant communities found there.

Waste
Waste is unwanted or undesired material left over after the completion of a process. "Waste" is a human concept: in natural processes there is no waste, only inert end products.

Watercourse
(a) a river or spring;
(b) a natural channel in which water flows regularly or intermittently;
(c) a wetland, pan, lake or dam into which, or from which, water flows; and
any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and
a reference to a watercourse includes, where relevant, its bed and banks.

Wetland
Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

ABBREVIATIONS

BAR	-	Basic Assessment Report
BID	-	Background Information Document
CBA	-	Critical Biodiversity Area
CRR	-	Comments and Response Report
DWA	-	Department of Water Affairs
DWS	-	Department of Water and Sanitation
EA	-	Environmental Authorisation
EAP	-	Environmental Assessment Practitioner
ECA	-	Environmental Conservation Act of 1989
EIA	-	Environmental Impact Assessment
EIR	-	Environmental Impact Report
EMF	-	Environmental Management Framework
EMP	-	Environmental Management Programme
ESA	-	Ecological Support Area
GN	-	Government Notice
Ha	-	Hectare
I&AP	-	Interested and Affected Party
IWULA	-	Integrated Water Use Licence Application
MBSP	-	Mpumalanga Biodiversity Sector Plan
MDARDLEA	-	Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs
NEMA	-	National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended
NEM:WA	-	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended
NHRA	-	National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended
NWA	-	National Water Act, 1998 (Act No. 36 of 1998)
PA	-	Protected Area
R	-	Regulation
SAHRA	-	South African Heritage Resources Agency
SANS	-	South African National Standards
SAWIC	-	South African Waste Information Centre

1. PROJECT TITLE

Establishment of a new Township on Portion 513 of the Farm Naauwpoort 335 JS for Industrial Use (referred to as Benicon Extension 2).

2. APPLICANT DETAILS

Applicant Name	Mlangeni Family Trust
Contact Person	Mr Oscar Nkosi
Postal Address	PO Box 571, Belfast
Telephone Number	013 697 5322
Cell phone Number	082 398 8971
Email Address	Onnkosi35@gmail.com

3. ENVIRONMENTAL ASSESSMENT PRACTITIONER DETAILS

Environmental Assessment Practitioner Company	Labesh (Pty) Ltd
Contact Person	Lourens de Villiers
Postal Address	Postnet Box 469, Private Bag X504, Sinoville, 0129
Telephone Number	082 789 6525
Email Address	info@labesh.co.za
Qualifications	B.Sc Earth Science (North West University) Hons B.Sc Geography and Environmental Studies (North West University) M.Sc Water Resource Management (University of Pretoria)
Relevant experience	19 years' experience conducting Environmental Impact Assessment processes

The EAP's Company Details are attached to this report under Appendix E.

4. LOCATION OF THE PROPOSED DEVELOPMENT AND ACTIVITIES

The property for the proposed development and its associated activities is as follows:

Property/Land Parcel	21 digit Surveyor General Code	Property size
Portion 513 of the Farm Naauwpoort 335 JS	T0JS00000000033500513	168 000m^2 (16.8Ha)

The project location is approximately 16km South of Emalahleni, in the Emalahleni Local Municipality of the Nkangala District Municipality, Mpumalanga Province. The GPS coordinates for the project site are as follows:

25° 57'58.22"S; 29°16'2.43"E

A locality map, provided on the next page, shows the location of the project property, at an appropriate scale.

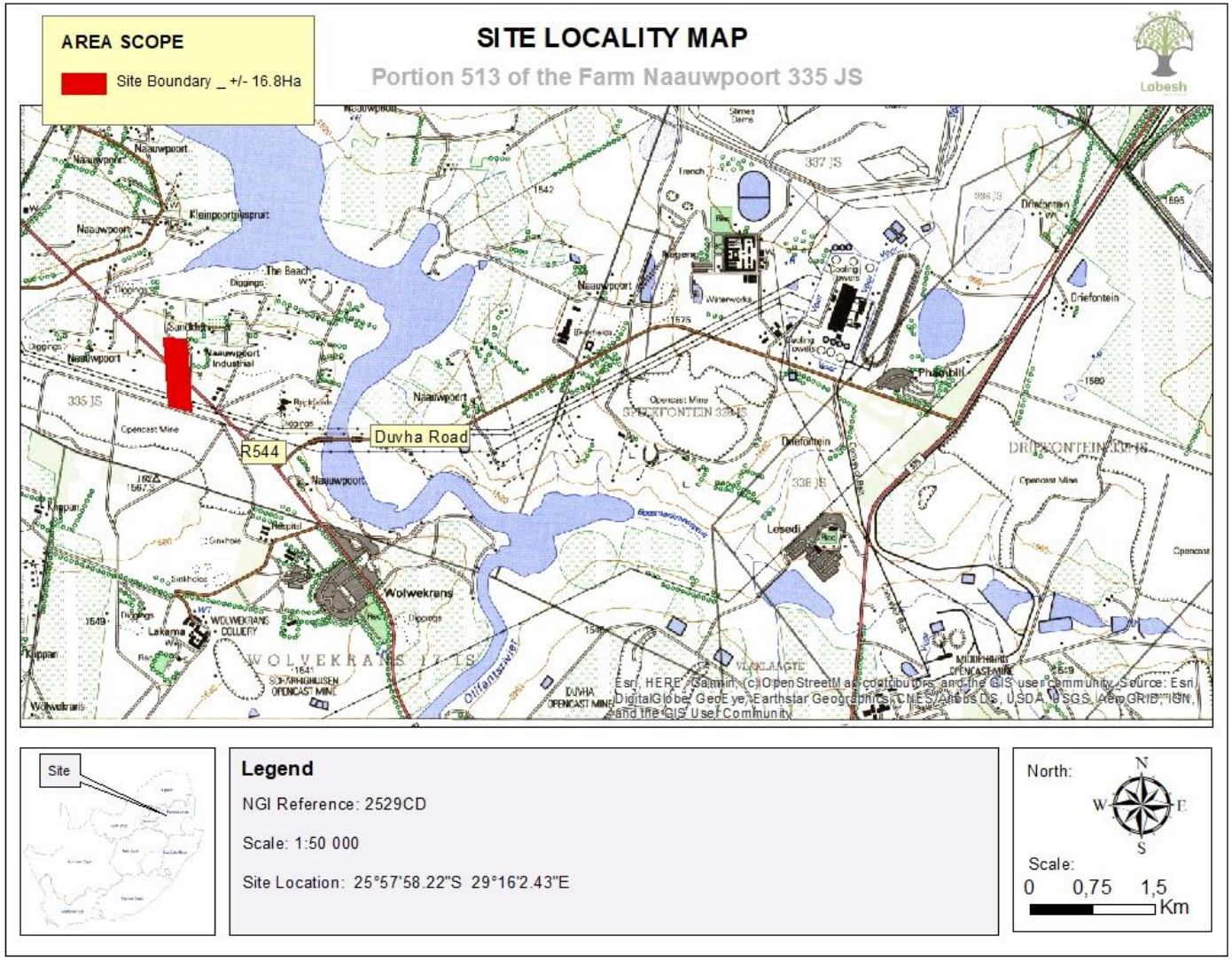

Figure 1: Site Locality Map

The following photographs give an indication of the current status of the project property.











5. DESCRIPTION OF THE ASPECTS OF THE ACTIVITY THAT ARE COVERED BY THE EMPr AS IDENTIFIED BY THE PROJECT DESCRIPTION

5.1 Description of the activities to be undertaken

The land, on which the proposed township is to be established, is situated on Portion 513 of the Farm Naauwpoort 335 JS. The land is owned by Mlangeni Family Trust and is approximately 16.9Ha in extent. The proposed township will consist of two sections located on both sides (North and South) of a Provincial Road (R544) that runs from Emalahleni to Bethal.

The intention of the developer is to develop an industrial node that will render both industrial and commercial services to amongst other mines and the power station in the South region of Emalahleni.

The project site is: Portion 513 of the Farm Naauwpoort 335 JS, Mpumalanga. The proposed project site falls within the Emalahleni Local Municipality and the Nkangala District Municipality, Mpumalanga Province. The project site is currently an open, vacant property.

Existing buildings on site

The following infrastructure is currently present at the project site:

- No infrastructure (buildings) are currently present at the project site. The project site is an open, vacant property.

Proposed project

The proposed project will entail the establishment of a township on Portion 513 of the Farm Naauwpoort 335 JS, for Industrial use.

The proposed layout plan makes provision for two industrial erven, Erf 1 with a 6.7234Ha coverage (North of the R544 Provincial road) and Erf 2 with a 6.4607Ha coverage (South of the R544 Provincial road). A private road of approximately 1.4976Ha will be constructed on Erf 1. The existing Provincial road (R544) will be retained as part of the proposed development.

The project property is +/-16.8 hectares in total. Should the development be approved, will the proposed developmental footprint (project site) be approximately 16.8 hectares.

5.1.1 Roads and Storm Water

Access

Access to the proposed site will be from the R544 Provincial road. The proposed access will consist of one (1) entrance and one (1) exit lane each being 4m wide.

Surface Drainage/ Storm Water Routing

Efficient storm water management infrastructure will include the channelling of storm water between kerbs and into kerb inlets. The kerb inlets will in return route storm water via subsurface conduits to where it will leave the project site through retention dams.

5.1.2 Water Services

Portable water for the proposed township establishment will be extracted from four (4) newly drilled boreholes (groundwater resources) on the property. All boreholes passed a quality test that was performed, some of the boreholes does however require some chlorination to ensure safe drinking water.

Water Use

An approximate of 38 000L (38m^3) of groundwater will be abstracted from the four (4) boreholes per day. Therefore, a total of 13 870m^3 of groundwater will be abstracted from boreholes per annum for industrial use (38m^3 per day x 365 days). This requires a Water Use Registration with Water Affairs. *See:* **Error! Reference source not found.**.

Water Storage

The storage of groundwater will be in a reservoir that will be able to store approximately 1000m^3 of water at any given time.

5.1.3 Waste

Domestic Waste

Domestic waste generated on the premises will be removed and disposed of at a licensed municipal waste facility.

5.1.4 Sewerage

The proposed sewer system is a gravity system which drains to several Sewage Package Plants which is designed according to the phasing of the proposed project. The outflow of the plants will confirm to Government's relevant standards for the Olifants River Catchment. The outflow will further be recycled and pumped through a network of pipes to reservoirs. A gravity system will then be used to supply business users with recycled water for either cooling of material or washing of equipment and plant.

5.1.5 Electricity

The installation of civil and electrical services will be positioned according to ELMC's guidelines.

5.1.6 Traffic

A Traffic Study, conducted by EDL Engineers (Pty) Ltd, concluded that access to the proposed industrial development park development can be accommodated of the R544 Provincial road approximately 1.3km north of the intersection of District Road D2771 and the R544. The R544 provincial road, is a busy road which serves +/- 18 000 vehicles per day and will the proposed development add 100 to 150 vehicles per hour. EDL Engineers (Pty) Ltd found that no future upgrades are proposed for the R544 Provincial road. It is however proposed that the access to the development must have road signage and marking which complies with relevant standards.

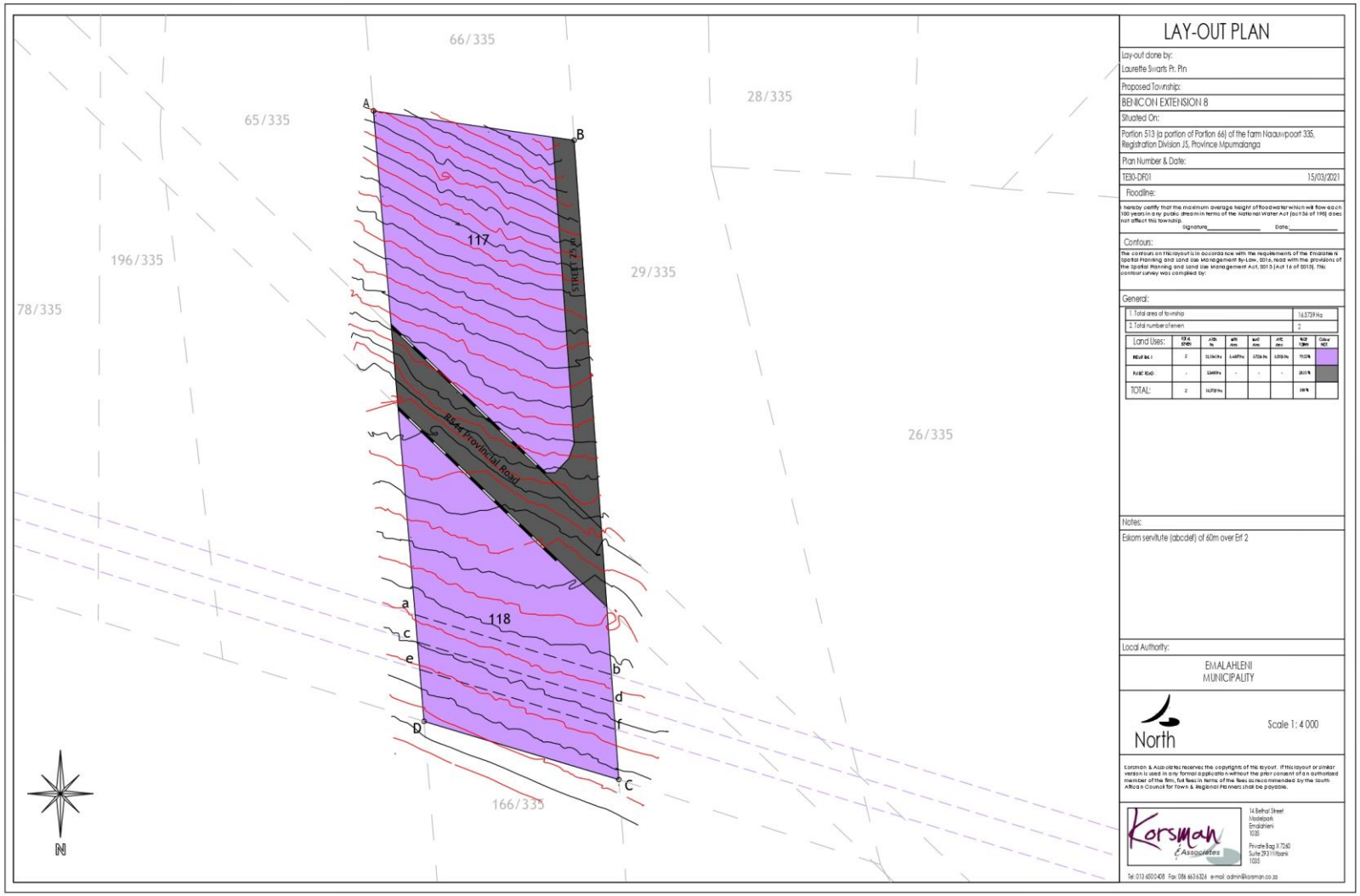

Figure 2: Proposed Site Layout Plan

5.2 Listed Activities triggered by the proposed development

The following listed activities are triggered by the proposed development and therefore require Environmental Authorisation, in terms of the Environmental Impact Assessment Regulations of 4 December 2014, as amended:

Table 1: Listed activity/activities triggered by the proposed development

Government Notice and Activity Number	Wording as per the Listing Notice	Description as per the project description relating to each listed activity
Government Notice R327 (Listing Notice 1)		
Government Notice R327 (Listing Notice 1), Activity No. 27	1. The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposed undertaken in accordance with a maintenance management plan	The clearance of indigenous vegetation of +/- 16,8Ha (168 000m^2) on Portion 513 of the Farm Naauwpoort 335 JS.
Government Notice R327 (Listing Notice 1), Activity No. 28	1. 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: (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area where the total land to be developed is bigger than 1 hectare; Excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.	Industrial development (on Portion 513 of the Farm Naauwpoort 335 JS) of +/- 16,8Ha (168 000m^2) that will occur outside an urban area.
Government Notice R984 (Listing Notice 2)		
No activities triggered in Government Notice R984 (Listing Notice 2)		
Government Notice R985 (Listing Notice 3)		
No activities triggered in Government Notice R985 (Listing Notice 3)		

5.3 Potential Environmental Licensing Required

5.3.1 Water Use Licence Activities

According to the GN 288 General Authorisations, dated April 2012 (as revised on September 2016), in terms of Section 39 of the NWA, 1998 (Act No. 36 of 1998), a person who takes more than 10m³ of water from a surface water resource or 10m³ of water from a groundwater resource per day on average over a year on a property or piece of land or stores water, must register the water use with the responsible authority.

- Groundwater Use

Groundwater will be abstracted from 4 newly drilled boreholes on the proposed project site. All 4 boreholes were tested according to their safety yield and water quality (safe yield values were determined by Geo Pollution Technologies). A total amount of 48 000L per day was calculated as being the combined safe yield figure for all 4 boreholes. Taking up an estimate consumption of 2000L/stand/day with a safety margin of 25%, a total number of 19 stands can be serviced at a total consumption of 38 000L (38m^3) per day. The water use for Benicon Extension 2 will be 13 870m^3 per annum (this is equivalent to +/- 825,59m^3 per hectare per annum [at 16.8Ha]). This requires a Water Use Registration/License with Water Affairs.

- Catchment Classification

The project site lies within the Olifants River Catchment (Olifants Water Management Area or WMA 2). The property falls within the B11G quaternary drainage region. The depth to the groundwater is between 5-15 metres below ground level with a recharge of 10-50mm per annum (Council for Geoscience, 2011). The aquifers below the site are classified as minor aquifers (DWA, 2012).

Table 2 (groundwater abstraction rates) in GN 288 of 4 April 2012, general authorisations in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998), states that 45m^3 water may be abstracted per hectare per year in the B11G quaternary drainage region.

- Water Storage

Water storage on the proposed site will not exceed the 10 000m^3 limit as outlined in GN 538 of 2016 (water storage at the proposed site will not exceed 1000m^3).

The WULA process

Regulation 267 of the National Water Act, 1998 (Act No. 36 of 1998) outlines the regulations regarding the procedural requirements for water use license applications and appeals. The WULA process takes an average of 300 cumulative days and is conducted separately from the EIA process. Relevant information will be provided to all registered I&AP as soon as application is submitted to the Department of Water and Sanitation (DWS).

5.3.2 Waste

As per GN 921 of 29 November 2013, and as amended on 11 October 2017, the Department of Environmental Affairs published a list of waste management activities that have, or are likely to have, a detrimental effect on the environment and in respect of which a waste management license may then be required in accordance with Section 20(b) of the National Environmental Management: Waste Act, 2008 (Act no. 59 of 2008),

The potential for a Waste Management License on Portion 513 of the Farm Naauwpoort 335 JS, may be a possibility in the future, depending on the quantity of waste that will be stored, recycled, treated or disposed of onsite.

5.4 Environmental sensitivity overlay map – Map at an appropriate scale that 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.

Please refer to *Figure 3* below. According to the Mpumalanga Biodiversity Sector Plan, the proposed site is "*Heavily Modified"* with some *"Other Natural Areas"* remaining. The Terrestrial CBA Map further indicates that the majority of the project site is designated as "*No Natural Habitat Remaining*" with some very small areas being *"Highly Significant"* and of *"Least Concern"*.

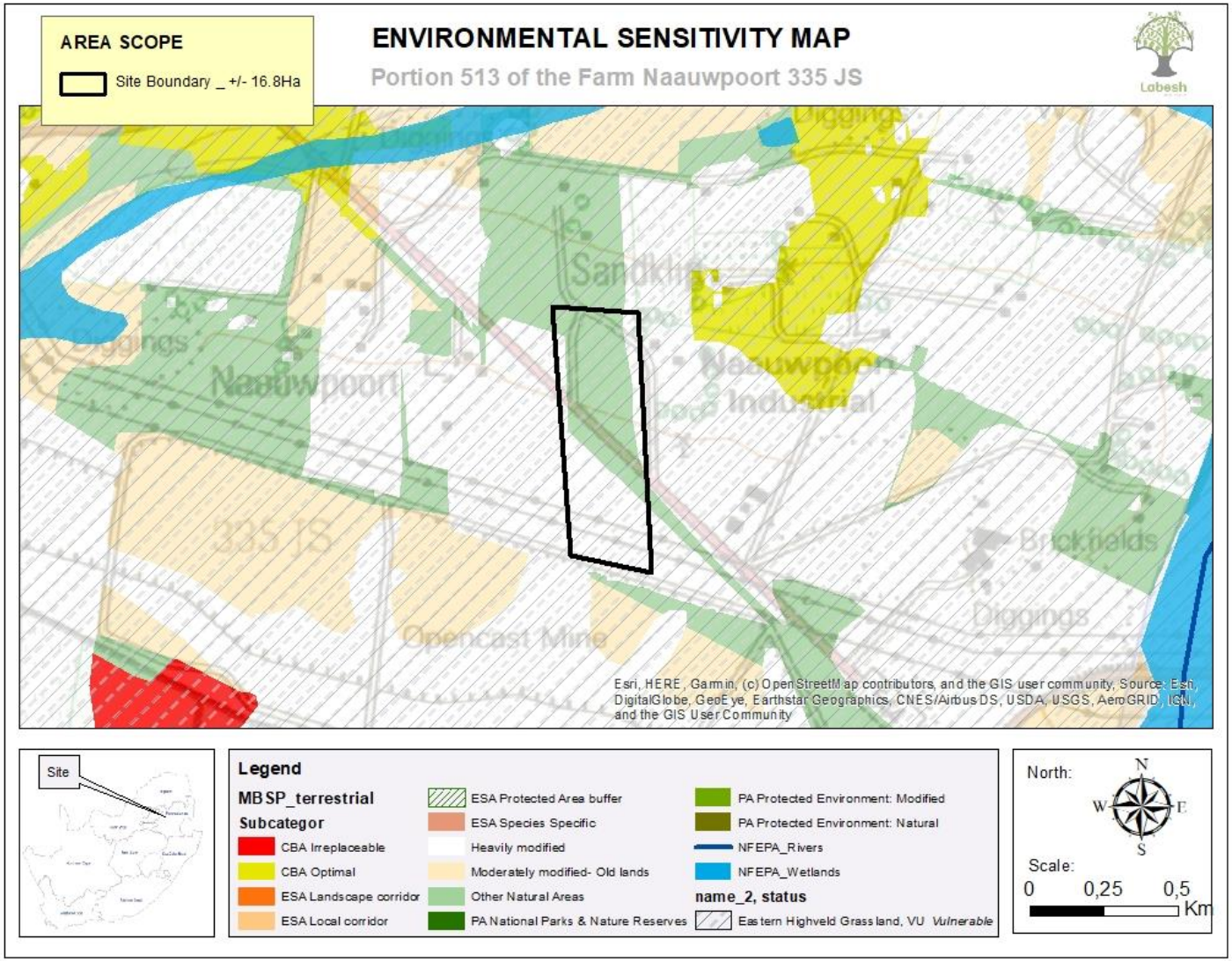

Figure 3: Sensitivity Map of the Project Site

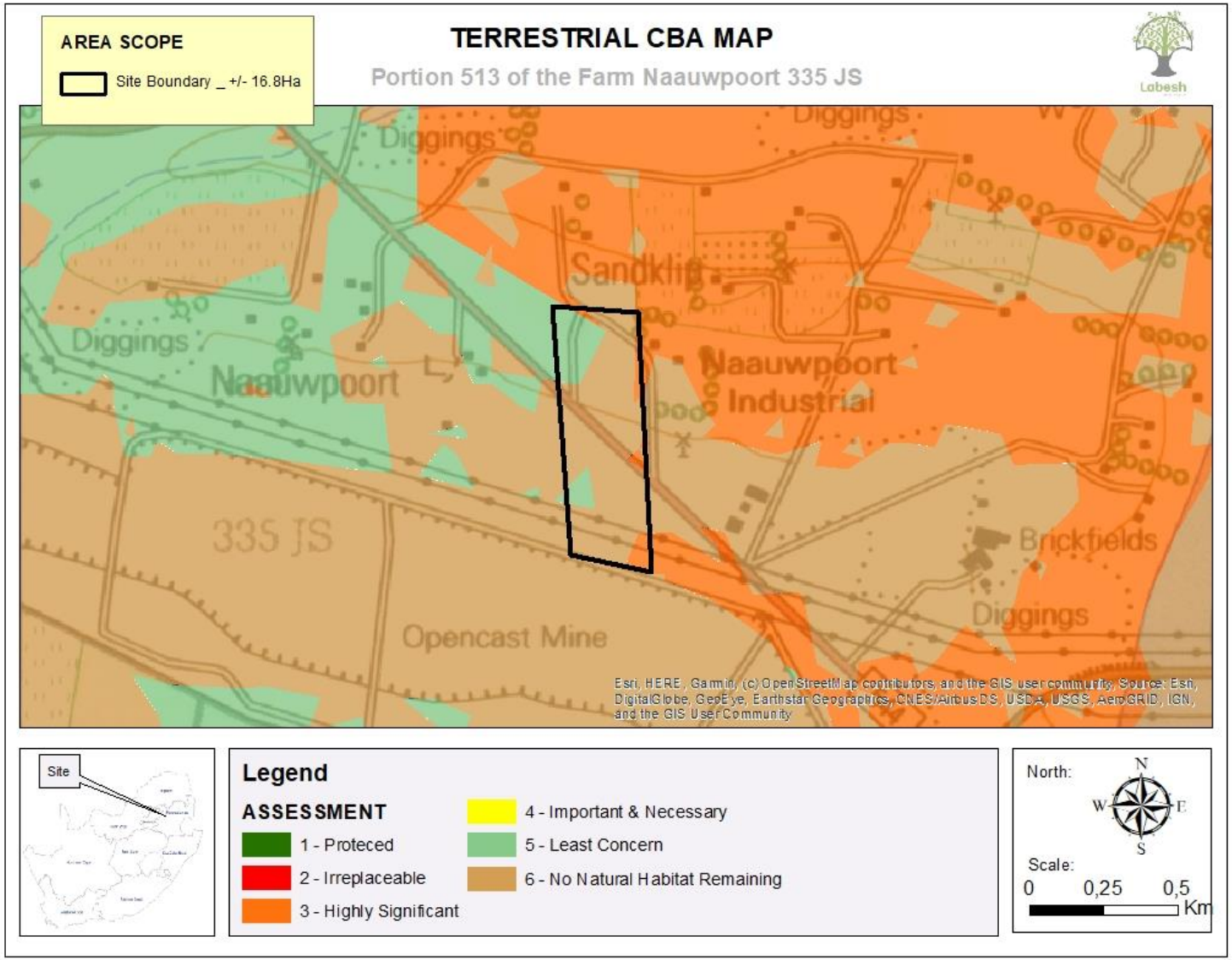

Figure 4: Terrestrial CBA map of the site

6. POLICY AND LEGISLATIVE CONTEXT OF THE APPLICATION

The following legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments are applicable to the proposed development and have been considered in this Basic Environmental Impact Assessment process. The mitigation measures proposed in this Environmental Management Programme are also aligned with the provisions of the relevant sections of legislation.

Legislation

The Constitution of South Africa, 1996 (Act No. 108 of 1996), as amended • *To establish a Constitution with a Bill of Rights for the RSA.*
The National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended • *To provide for the integrated management of the environment, and to regulate the 'Duty of Care' Principle.*
The Environmental Impact Assessment Regulations of 4 December 2014, as amended • *To regulate and control the authorisation of certain listed activities.*
The National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended • *To introduce an integrated and interactive system for the management of the national heritage resources.*
The National Appeal Regulations – Government Notice No. R.993 of 8 December 2014
Promotion of Access to Information Act, 2000 (Act No 2 of 2000 as amended) • *To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights.*
The National Water Act, 1998 (Act No. 36 of 1998), as amended • *To provide for fundamental reform of the law relating to water resources*
The National Environmental Management: Waste Act (Act No. 59 of 2008) • *To reform 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.*
The National Environmental Management: Air Quality (Act No. 39 of 2004) • *To reform the law regulating air quality to protect the environment by providing reasonable measures for the prevention of pollution. To provide for national norms and standards regulating air quality monitoring, management and control.*
The Environment Conservation Act, 1989 (Act No. 73 of 1989) • *To control environmental conservation.*

Plans

Mpumalanga Biodiversity Sector Plan, 2014

Guidelines

Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010
Guideline on Public Participation in the Environmental Impact Assessment Process, 2012

Spatial Tools

SANBI Biodiversity GIS Database
National Web Based Environmental Screening Tool

Provincial Development Planning Frameworks

Mpumalanga Spatial Development Framework

Municipal Development Planning Frameworks

Emalahleni Local Municipality – Spatial Development Framework, 2015
Emalahleni Local Municipality – Integrated Development Plan, 2018/2019
Emalahleni Local Municipality – Local Economic Development Strategy, 2011-2016

7. DESCRIPTION OF IMPACT MANAGEMENT OUTCOMES, MANAGEMENT STATEMENTS AND IMPACTS AND RISKS THAT NEED TO BE AVOIDED, MANAGED AND/OR MITIGATED

7.1 Impact Management Outcomes

Please refer to *Table 3* under Section 8 below.

7.2 Impact Management Statements

The applicant, Mlangeni Family Trust commits to implementing the mitigation actions contained in this Environmental Management Programme in order to ensure that the environmental impacts from their activities are minimised.

7.3 Impacts and risks that need to be avoided, managed and/or mitigated

The following impacts and risks have been identified for the preferred alternative and need to be avoided, managed and/or mitigated:

Table 2: Impacts and Risks Identified for the Preferred Alternative

Impact	Phase	Risks
Pre-construction Phase	Pre-construction phase	• Unauthorised access to the construction site that can pose a risk to the public in terms of their safety. • Unsafe working conditions. • Workers being unaware of the dangers of working at the construction site, resulting in a risk to their safety.
Surface and Groundwater	Planning and Design Phase	• Inadequate planning or faulty designs may lead to surface and groundwater pollution.
	Construction Phase	• Pollution of surface and/or groundwater resources due to hydrocarbon spillages or leakages from construction vehicles. • Pollution of surface and/or groundwater resources due to spillages from chemical toilets. • Pollution of surface and/or groundwater resources due to the incorrect management, storage and disposal of construction waste. • Pollution of surface and/or groundwater resources due to the runoff of contaminated stormwater. • Pollution of surface and/or groundwater resources from the mixing of concrete. • The wastage of water resources (borehole water supply) due to the irresponsible use of water.
	Operational Phase	• Pollution of surface and/or groundwater resources due to hydrocarbon spillages or leakages from vehicles. • Pollution of surface and/or groundwater resources due to the incorrect management, storage and disposal of waste. • Pollution of surface and/or groundwater resources due to the runoff of contaminated stormwater.

Impact	Phase	Risks
		• Pollution of surface and/or groundwater resources due to leakages from the sewerage network (pipelines) onsite. • The wastage of resources due to the irresponsible use of water and electricity.
	Post-construction and Rehabilitation Phase	• Pollution of surface and/or groundwater resources due to hydrocarbon spillages or leakages from construction vehicles.
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Fauna	Construction Phase	• Loss of habitat. • Habitat fragmentation. • Disturbance of any fauna species that may be resident onsite.
	Operational Phase	• Disturbance of any fauna species that may be resident onsite. • Habitat fragmentation. • Provision of artificial habitat for fauna species.
	Post-construction and Rehabilitation Phase	• Disturbance of any fauna species that may be present onsite.
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Flora	Construction Phase	• Loss of degraded/disturbed vegetation (Eastern Highveld grassland) during site clearance. • Establishment and spread of alien invasive vegetation. • Risk of veld fires.
	Operational Phase	• Establishment and spread of alien invasive vegetation (onsite and surrounding areas). • Risk of veld fires.
	Post-construction and rehabilitation phase	• Establishment and spread of alien invasive vegetation (onsite and further than the site).
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Heritage Resources	Construction Phase	• Possible disturbance or destruction of cultural and heritage resources.
	Operational Phase	

Impact	Phase	Risks
	Post-construction and Rehabilitation Phase	
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Palaeontological Resources	Construction Phase	• The site is located in an area with "*Very High*" palaeontological sensitivity. The possibility exists that significant fossil assemblages may be present beneath the site. The disturbance and/or destruction of the fossil assemblages.
	Operational Phase	
	Post-construction and Rehabilitation Phase	
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Air Quality and Noise	Construction Phase	• Generation of dust by construction vehicles. • Release of emissions from construction vehicles. • Generation of nuisance and noise from construction vehicles and equipment/machinery.
	Operational Phase	• Generation of dust by excavation and vehicles onsite. • Release of emissions from vehicles. • Generation of nuisance and noise from vehicles, excavation and maintenance activities.
	Post-construction and Rehabilitation Phase	• Generation of dust by construction vehicles. • Release of emissions from construction vehicles. • Generation of nuisance and noise from construction vehicles and equipment/machinery.
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Soil	Planning and Design Phase	• Inadequate planning or faulty designs may lead to soil pollution and may cause soil instability and disturbances.
	Construction Phase	• Soil pollution due to hydrocarbon spillages or leakages from construction vehicles. • Soil pollution due to spillages from chemical toilets. • Soil pollution due to the incorrect management, storage and disposal of waste (general and hazardous waste). • Soil pollution of surface and/or groundwater resources from the mixing of concrete.

Impact	Phase	Risks
		• Soil erosion due to the clearance of vegetation and the removal of topsoil and subsoil. • Soil compaction to create foundations for buildings and other associated infrastructure. • Degradation of topsoil due to incorrect storage practices.
	Operational Phase	• Soil pollution due to hydrocarbon spillages or leakages from vehicles. • Soil pollution due to the incorrect management, storage and disposal of waste (general and hazardous waste). • Soil pollution due to leakages from the sewerage network (pipelines) onsite. • Soil instability.
	Post-construction and Rehabilitation Phase	• Soil pollution due to hydrocarbon spillages or leakages from vehicles. • Soil erosion due to inefficient rehabilitation of construction areas.
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Socio-economic	Construction Phase	• Generation of a number of employment opportunities. • Potential increase in crime due to the influx of workers. • Stimulation of the local economy.
	Operational Phase	• Generation of a number of employment opportunities. • Stimulation of the local economy.
	Post-construction and Rehabilitation Phase	• Generation of a number of employment opportunities. • Stimulation of the local economy.
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Traffic	Construction Phase	• Increase in traffic volumes to the site.
	Operational Phase	
	Post-construction and Rehabilitation	
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.
Fire Risk	Construction Phase	

Impact	Phase	Risks
	Operational Phase	• Increased risk of fire due to construction/operational activities and increased human activity.
	Post-construction and Rehabilitation	None anticipated
	Decommissioning Phase	No decommissioning activities are anticipated or planned for the proposed project. Therefore, no impacts have been identified or assessed as part of this Environmental Impact Assessment process.

8. DESCRIPTION OF PROPOSED IMPACT MANAGEMENT ACTIONS (ENVIRONMENTAL MANAGEMENT PROGRAMME ACTIONS)

8.1 Impact Management Outcome and Action Table

Please refer to *Table 3* below.

Table 3: Environmental Management Programme – Impact Management Outcome and Action Table

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Planning and Design Phase				
Planning and Design Phase				
Planning and design of the facilities.	Inadequate planning and design of the facilities that could result in environmental impacts that could have been avoided.	To effectively plan for and design the facilities to avoid or minimise environmental impacts.	**Site selection** • The infrastructure should preferably be constructed on an already disturbed site. • The infrastructure may not be constructed on a wetland or within a drainage line. • The infrastructure must preferably be constructed on a level/flat site. • The site must have the correct land use zoning to enable the infrastructure to be constructed and operated. **Design of Facilities** • Impermeable foundations (such as concrete foundations) must be designed for the weaning and growth houses. • An adequate number of fire extinguishers must be provided for.	• Applicant • Engineer
Pre-Construction Phase				
Pre-Construction Phase				
Construction site establishment.	Unauthorised access to the construction site that can pose a risk to the public in terms of their safety. Unsafe working conditions.	To secure the construction site and ensure that it is operated in a responsible manner for the duration of the construction phase.	• The construction site must be demarcated (fenced or delineated with danger tape). Permanent demarcation is preferable to prevent the public from gaining access to the site. • A site plan must be drawn up by the construction contractor and kept on file. The site plan must show proposed stockpile areas, waste storage areas and ablution facilities. • Signage indicating that the site is a "Construction Site" and indicating the risks associated with the site must be displayed. • Emergency numbers, "No-smoking" signs and "No Open Flame" signs must also be displayed at the construction site. • Fire-fighting equipment must be placed at the construction site and must be easily accessible. • The fire-fighting equipment must be maintained on an annual basis.	• Applicant • Construction contractor
Appointment of workers (employees and contractors) to commence construction activities onsite.	Workers being unaware of the dangers of working at the construction site, resulting in a risk to their safety.	To adequately educate workers (employees and contractors) regarding environmental awareness.	• Before any employees or contactors commence work at the construction site, each individual must undergo an Induction Training session that will cover the aspects as detailed in the Environmental Awareness Plan (contained in this EMPr). Attendance registers must be completed and kept on file. • Employees and contract workers must be issued with suitable Personal Protective Equipment (PPE), as applicable to each persons' job onsite.	• Applicant • Construction contractor
Surface and Groundwater				
Pre-Construction Phase				
Inadequate planning or faulty designs.	Surface and groundwater pollution due to inadequate planning or faulty designs.	To avoid preventable surface and groundwater pollution by effective planning and design.	• All environmental features and sensitive receptors should be taken into account during the design and planning phase. All reasonable measures should be taken to minimise preventable impacts on the environment.	• Applicant • Construction contractor
Construction Phase				
Hydrocarbon spillages or leakages from vehicles, including construction vehicles.	Pollution of surface and/or groundwater resources.	To prevent hydrocarbon spillages and/or leakages from construction vehicles and ensure that any spillages are cleaned effectively.	• Spill kits must be onsite to clean up any hydrocarbon spillages. • Vehicles should regularly be inspected to ensure that any fuel or oil leaks are repaired. • Drip trays should be used for any minor repairs or maintenance work done onsite. • Any soil that has been contaminated by oil, diesel or petrol must be regarded as hazardous and disposed of at an appropriately licensed facility. Safe Disposal Certificates must be obtained and kept on record.	• Applicant • Construction contractor
Spillages from chemical toilets.	Pollution of surface and/or groundwater resources.	To prevent spillages from chemical toilets and ensure that any spillages are cleaned effectively.	• Sufficient ablution facilities must be provided. • Chemical toilets must be serviced regularly and must be provided with toilet paper at all times.	• Applicant

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
			• Proof of safe disposal of contents of chemical toilets should be kept on record. • Any spillages from the chemical toilets must immediately be cleaned and the contaminated soil disposed of as hazardous waste.	• Construction contractor
Incorrect management, storage and disposal of waste, including construction waste.	Pollution of surface and/or groundwater resources.	To ensure that construction waste is managed in an environmentally responsible manner.	• Construction waste must be stored in a designated area. • Building rubble must be stored separately from domestic waste. • Refuse bins must be provided for domestic waste. • Large volumes of waste may not accumulate onsite. • Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal. Safe Disposal Certificates must be obtained and kept on record. • No waste may be burnt or buried onsite. • Building rubble must be kept clean of plastic and brick ties. • All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013).	• Applicant • Construction contractor
Runoff of contaminated storm water.	Pollution of surface and/or groundwater resources.	To prevent the contamination of storm water.	• A storm water management plan must be developed and implemented at the project site. • Storm water must be diverted around areas where there are pollution sources. • Storm water drainage infrastructure must be regularly inspected for obstructions. • No contaminated storm water may be released into the environment from the construction activities. • Washing or cleaning of equipment or machinery must occur in a designated area and the contaminated wash water must be contained. Such an area could be a plastic drum, a container or a plastic lined pit.	• Applicant • Construction contractor
The mixing of concrete.	Pollution of surface and/or groundwater resources.	To prevent the contamination of water during the concrete mixing.	• Concrete should ideally be mixed on an impermeable surface such as a concrete slab. • Cement bags (new and used) must be stored under roof or in closed containers where they will not be exposed to the weather. • Dry concrete must be removed and disposed of together with other building rubble. • Ready-mix concrete trucks may clean chutes into foundations, but not elsewhere onsite.	• Applicant • Construction contractor
The wastage of water (borehole water supply).	Wastage of water resources due to the irresponsible use of water.	To prevent wastage of water.	• Water pipes and hoses should be inspected on a regular basis and any leakages should immediately be repaired. • Running water taps or hoses may not be left unattended.	• Applicant • Construction contractor
Operational Phase				
Hydrocarbon spillages or leakages from vehicles.	Pollution of surface and/or groundwater resources.	To prevent hydrocarbon spillages and/or leakages from vehicles and ensure that any spillages are cleaned effectively.	• Spill kits must be onsite to clean up any hydrocarbon spillages. • Vehicles should regularly be inspected to ensure that any fuel or oil leaks are repaired. • Any soil that has been contaminated by oil, diesel or petrol must be regarded as hazardous and disposed of at an appropriately licensed facility. Safe Disposal Certificates must be obtained and kept on record.	• Applicant • Site manager
Incorrect management, storage and disposal of waste.	Pollution of surface and/or groundwater resources.	To ensure that construction waste is managed in an environmentally responsible manner.	• Waste must be managed according to its hazard classification (i.e. general vs. hazardous waste). • General and hazardous waste streams must not be mixed. • Waste stored onsite must be kept in appropriate containers with closable lids. • Large volumes of waste may not accumulate onsite. • Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal (last resort). Safe Disposal Certificates must be obtained and kept on record. • No waste may be burnt or buried onsite. • All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013).	• Applicant • Site manager
Runoff of contaminated storm water.	Pollution of surface and/or groundwater resources.	To prevent the contamination of storm water.	• A storm water management plan must be developed and implemented at the project site. • Storm water must be diverted around areas where there are pollution sources. • Storm water drainage infrastructure must be regularly inspected for obstructions. • No contaminated storm water may be released into the environment from the construction activities. • Washing or cleaning of equipment or machinery must occur in a designated area and the contaminated wash water must be contained. • Wash water from the wash bay must be contained and not released into the environment.	• Applicant • Site manager

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Spillages from the sewerage network (pipelines) onsite.	Pollution of surface and/or groundwater resources.	To ensure that the sewerage network is kept in a good state of repair.	• Ablution facilities must regularly be cleaned. • Should toilets run slowly or become blocked, this should be investigated to ensure that this is not due to a broken or blocked pipe underground. • Any broken or blocked pipes must be repaired.	• Applicant • Site manager
The wastage of water (borehole water supply) and electricity.	Wastage of resources due to the irresponsible use.	To prevent wastage of resources.	• Consumption of water and electricity must be monitored. • Use energy efficient lighting, where possible. • Switch off lights and appliances when not in use. • Water pipes and hoses should be inspected on a regular basis and any leakages should immediately be repaired. • Running water taps or hoses may not be left unattended. • High pressure hoses should be used, where possible.	• Applicant • Site manager
Fauna				
Construction Phase				
Construction activities.	Displacement of resident (common) species and any natural biota.	To prevent the resident species and natural biota.	• Fauna species may not be disturbed, captured or killed and must be avoided. • Trenches must be inspected regularly to ensure that no animals are trapped. • Should animals be encountered during the development, these should be relocated (by a suitably qualified specialist) to natural vegetation areas in the vicinity of the site.	• Applicant • Construction contractor
Operational Phase				
Operational activities.	Displacement of resident (common) species and any natural biota.	To prevent the resident species and natural biota.	Same mitigation measures as under construction phase.	• Applicant • Site manager
Operational activities.	Provision of artificial habitat for fauna species.	This is a positive impact and no mitigation measures are therefore required.		Not applicable.
Flora				
Construction Phase				
Site clearance.	Loss of degraded / disturbed vegetation (Soweto Highveld grassland).	To minimise the loss of vegetation.	• Remove only the vegetation where essential for construction and don't allow any disturbance to adjoining natural vegetation cover. • Make use of predetermined roads and tracks. • Once construction is complete, obsolete roads should be obliterated by by breaking the surface crust and erecting earth embankments to prevent erosion, while the natural species composition should be re-established. • Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient.	• Applicant • Construction contractor
Construction activities.	Establishment and spread of alien invasive vegetation (onsite and further than the site).	To prevent the establishment and spread of alien invasive vegetation.	• Development and implement an alien invasive eradication plan. • Use only indigenous plant species for gardens and rehabilitation. • Eradicate any alien invasive vegetation observed onsite.	• Applicant • Construction contractor
Operational Phase				
Operational activities.	Establishment and spread of alien invasive vegetation (onsite and further than the site).	To prevent the establishment and spread of alien invasive vegetation.	Same mitigation measures as under construction phase.	• Applicant • Site manager
Heritage Resources				
Construction Phase				
Construction activities.	Disturbance or destruction of cultural and heritage resources.	To prevent the disturbance or destruction of cultural and heritage resources.	• If any cultural or heritage resources, sites, features or objects are exposed during the construction activities, all construction activities in the area must be stopped and a heritage specialist must be contacted to investigate the site and recommend the way forward.	• Applicant • Construction contractor
Operational Phase				

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Operational activities.	None anticipated.		Not Applicable.	Not Applicable.
Palaeontological Resources				
Construction Phase				
Construction activities.	The disturbance and/or destruction of the fossil assemblages.	To prevent the unregulated/ uncontrolled destruction of fossil assemblages.	• A field assessment by a qualified palaeontologist must be conducted. • A Protocol of Fossil Finds must be compiled and submitted to the South African Heritage Resources Agency. The protocol must be implemented during the construction phase.	• Applicant • Construction contractor
Operational Phase				
Operational activities.	None anticipated.		Not Applicable.	Not Applicable.
Air Quality and Noise				
Construction Phase				
Construction activities.	Generation of dust by construction vehicles.	To prevent the generation of dust.	• Implement dust suppression techniques. • Limit vegetation clearance until it is necessary for soil stripping. • Retain vegetation and soil in position for as long as possible before stripping. • A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields: ▪ The date of the complaint; ▪ The name and surname of the person lodging the complaint; ▪ Details of the complaint; and ▪ How and when the complaint was addressed.	• Applicant • Construction contractor
Construction activities.	Release of emissions from construction vehicles.	To minimise emissions from construction vehicles.	• Regular maintenance of vehicles to minimise the release of emissions. • Speed bumps and traffic signs should be erected to prevent speeding onsite.	• Applicant • Construction contractor
Construction activities.	Generation of nuisance and noise from construction vehicles and equipment / machinery.	To prevent the generation of excessive noise.	• Noisy activities must be scheduled during times of the day that will result in the least disturbance to adjacent sensitive receptors. Noisy work must also be avoided over weekends and public holidays. • No amplified music is allowed onsite. • Sirens and/or hooters may only be used during emergencies and drills. • Noisy work must be avoided on weekends and public holidays. • Vehicles must not be left idling unnecessarily. • All vehicles must be regularly maintained. • A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields: ▪ The date of the complaint; ▪ The name and surname of the person lodging the complaint; ▪ Details of the complaint; and ▪ How and when the complaint was addressed.	• Applicant • Construction contractor
Operational Phase				
Operational activities.	Generation of dust by vehicles onsite.	To prevent the generation of dust.	• Implement dust suppression techniques, if required (for example, if there are any unpaved areas). • A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields: ▪ The date of the complaint; ▪ The name and surname of the person lodging the complaint; ▪ Details of the complaint; and ▪ How and when the complaint was addressed.	• Applicant • Site manager
Operational activities.	Release of emissions from vehicles.	To minimise emissions from vehicles.	• Regular maintenance of vehicles to minimise the release of emissions. • Speed bumps and traffic signs should be erected to prevent speeding onsite.	• Applicant • Site manager

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Operational activities.	Generation of nuisance and noise from vehicles. This also includes nuisance and noise from operational and maintenance activities.	To prevent the generation of excessive noise.	• No amplified music is allowed onsite. • Sirens and/or hooters may only be used during emergencies and drills. • Noisy work must be avoided on weekends and public holidays. • Trucks must not be left idling unnecessarily. Drivers should be instructed to also not hoot or rev trucks unnecessarily. • All vehicles and equipment must be regularly maintained. Loose or rattling parts should be repaired. • A complaints register must be kept onsite and be easily accessible to any party who wishes to lodge a complaint. The complaints register must include the following fields: ▪ The date of the complaint; ▪ The name and surname of the person lodging the complaint; ▪ Details of the complaint; and ▪ How and when the complaint was addressed. • Silencers must be fitted to equipment and machinery, where possible.	• Applicant • Site manager
Soil				
Construction Phase				
Hydrocarbon spillages or leakages from vehicles, including construction vehicles.	Soil pollution.	To prevent hydrocarbon spillages and/or leakages from construction vehicles and ensure that any spillages are cleaned effectively.	• Use drip trays for any machinery and/or vehicle repair work. • Immediately repair any leaking machinery or vehicles. • Place oil drums on impermeable surfaces or plastic liners. • Immediately clean any hydrocarbon spillages and dispose of as hazardous waste. Safe Disposal Certificates must be obtained and kept on record.	• Applicant • Construction contractor
Spillages from chemical toilets.	Soil pollution.	To prevent spillages from chemical toilets and ensure that any spillages are cleaned effectively.	• Sufficient ablution facilities must be provided. • Chemical toilets must be serviced regularly. • Proof of safe disposal of contents of chemical toilets should be kept on record. • Any spillages from the chemical toilets must immediately be cleaned and the contaminated soil disposed of as hazardous waste. Safe Disposal Certificates must be obtained and kept on record.	• Applicant • Construction contractor
The incorrect management, storage and disposal of waste (general and hazardous waste), including construction waste.	Soil pollution.	To ensure that construction waste is managed in an environmentally responsible manner.	• Waste must be managed according to its hazard classification (i.e. general vs. hazardous waste) and general and hazardous waste streams should not be mixed. • Waste stored onsite must be kept in appropriate containers with lids that can be closed. • Large volumes of waste may not accumulate onsite. • Waste must be taken to appropriately licensed facilities for reuse, recycling, recovery or disposal. Safe Disposal Certificates must be obtained and kept on record. • No waste may be burnt or buried onsite. • All waste must be stored in accordance with the Norms and Standards for the storage of waste (GN 926 of 29 November 2013).	• Applicant • Construction contractor
The mixing of concrete.	Soil pollution.	To prevent the contamination of soil during to concrete mixing.	• Concrete should ideally be mixed on an impermeable surface such as a concrete slab. • Cement bags (new and used) must be stored under roof or in closed containers where they will not be exposed to rain. • Dry concrete must be removed and disposed of together with other building rubble. • Ready-mix concrete trucks may clean chutes into foundations, but not elsewhere onsite.	• Applicant • Construction contractor
The clearance of vegetation and the removal of topsoil and subsoil.	Soil erosion.	To prevent soil erosion.	• Limiting vegetation clearance until it is necessary for soil stripping. • A temporary storm water management plan must be developed and implemented. • Implement adequate erosion prevention measures, such as measures to dissipate runoff water velocities. • Implement adequate storm water management measures.	• Applicant • Construction contractor
Construction activities to create foundations for buildings and other associated infrastructure.	Soil compaction.	To prevent soil compaction.	• Soils should be moved when dry, as far as possible. • Excessively heavy vehicles should not be used for earthmoving activities. This will minimise compaction of the soil.	• Applicant • Construction contractor

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Incorrect storage practices.	Degradation of topsoil.	To conserve/ protect topsoil.	• Topsoil and subsoil must be stored on separate stockpiles. • Cover topsoil stockpiles to prevent the soil being washed away during rainfall events. • Topsoil must be replaced during rehabilitation and landscaping.	• Applicant • Construction contractor
Operational Phase				
Hydrocarbon spillages or leakages from vehicles.	Soil pollution.	To prevent hydrocarbon spillages and/or leakages from vehicles and ensure that any spillages are cleaned effectively.	Same mitigation measures as under construction phase.	• Applicant • Site manager
The incorrect management, storage and disposal of waste (general and hazardous waste).	Soil pollution.	To ensure that waste is managed in an environmentally responsible manner.	Same mitigation measures as under construction phase.	• Applicant • Site manager
Spillages from the sewerage network (pipelines) onsite.	Soil pollution.	To ensure that the sewerage network is kept in a good state of repair.	• Ablution facilities must regularly be cleaned. • Should toilets run slowly or become blocked, this should be investigated to ensure that this is not due to a broken or blocked pipe underground. • Any broken or blocked pipes must be repaired.	• Applicant • Site manager
Socio-economic				
Construction Phase				
Construction activities.	Generation of a number of job opportunities.		This is a positive impact and no mitigation measures are therefore required.	Not applicable.
Construction activities.	Potential increase in crime due to the influx of workers.	To prevent an increase in incidents of crime in die area.	• Reference checks should be conducted on all workers before they are appointed. • Workers should not be allowed to leave the construction site during the day and should be transported to and from the site on a daily basis.	• Applicant • Construction contractor
Construction activities.	Stimulation of the local economy.		This is a positive impact and no mitigation measures are therefore required.	Not applicable.
Operational Phase				
Operational activities.	Generation of a number of job opportunities.		This is a positive impact and no mitigation measures are therefore required.	Not applicable.
Operational activities.	Stimulation of the local economy.		This is a positive impact and no mitigation measures are therefore required.	Not applicable.
Traffic				
Construction Phase				
Construction activities.	Increase in traffic volumes to the site.	To minimise the effect of an increase in traffic volumes.	• Ensure that construction vehicles are roadworthy and that drivers comply with road rules. • Loads must be securely fastened and may not exceed the tonnage limitations for each vehicle. • Provide separate entry and exit gateways for pedestrians and vehicles. • Plan storage areas so that delivery vehicles do not need to cross the site. • Construction vehicles to make use of roads with less vehicle movement.	• Applicant • Construction contractor
Operational Phase				
Operational activities.	Increase in traffic volumes to the site.	To minimise the effect of an increase in traffic volumes.	• Ensure optimal operation of the project site to ensure minimal impact on traffic flow.	• Applicant • Site manager
Fire Risk				
Construction Phase				
Construction activities.	The potential for fire establishment at the construction area and its subsequent risk to human life and infrastructure.	To prevent the occurrence of fires.	• Access to fire-fighting equipment must at all times be unobstructed. • Emergency numbers must be clearly displayed at the construction site.	• Applicant • Construction contractor
Operational Phase				

Aspect	Impact and Nature	Impact Management Outcomes	Impact Management Actions and Statements in order to avoid, modify, remedy, control or stop pollution or environmental degradation	Responsible party/ person(s)
Operational activities.	The potential for fire establishment at the project site and its subsequent risk to human life and infrastructure.	To prevent the occurrence of fires and/or explosions.	• An Emergency Response Plan must be compiled for the project site; • The fire-fighting system and all fire-fighting equipment must be inspected on an annual basis by a suitably qualified person and records kept on file. • The fire-fighting system and all fire-fighting equipment must be to the satisfaction of the municipal fire authority. • Access to fire-fighting equipment must at all times be unobstructed.	• Applicant • Site manager

8.2 Applicable Environmental Management Standards and Practices

- Norms and Standards for the Storage of Waste (GN 926 of 29 November 2013).

8.3 Applicable provisions of the NEMA, 1998, as amended, regarding closure

The provisions of NEMA, 1998, pertaining to closure are not applicable to this proposed development as the development does not include the prospecting, exploration or extraction of a mineral or petroleum resource.

8.4 Applicable provisions of the NEMA, 1998, as amended, regarding financial provision for rehabilitation

The provisions of NEMA, 1998, pertaining to financial provision for rehabilitation are not applicable to this proposed development as the development does not include the prospecting, exploration or extraction of a mineral or petroleum resource.

8.5 Method of monitoring the implementation of the impact management actions

Construction Phase

An independent Environmental Control Officer (ECO) must be appointed to conduct monthly compliance audits during the construction phase of the proposed development. The audits must verify compliance with the Environmental Authorisation and this Environmental Management Programme and a formal report must be compiled after each audit. The reports must be submitted to the Competent Authority. Once the construction phase has been completed, a post-construction audit must be conducted by the independent ECO and the report also submitted to the Competent Authority.

Operational Phase

An internal ECO must be appointed to conduct monthly compliance audits during the operational phase of the proposed development and to ensure that corrective actions are implemented where required. Reports resulting from these audits do not need to be submitted to the Competent Authority.

An independent ECO must be appointed to conduct annual compliance audits during the operational phase of the proposed development. The audits must verify compliance with the Environmental Authorisation and this Environmental Management Programme and must comply with the requirements of Appendix 7 of the Environmental Impact Assessment Regulations of 2014, as amended. A formal report must be compiled after each audit and the reports must be submitted to the Competent Authority.

8.6 The frequency of monitoring the implementation of the impact management actions

Construction Phase

Monthly independent ECO compliance audits.

Operational Phase

Monthly internal ECO compliance audits and annual external ECO compliance audits.

8.7 Persons who will be responsible for the implementation of the impact management actions

The applicant is ultimately responsible for the implementation of the impact management actions, during all phases of the development, even where the implementation of the actions may be contracted out to a third party. During the construction phase, sub-contractors will for the most part be carrying out the required impact management actions and these actions

should therefore be adequately communicated to the contractors. During the operational phase, the applicant will be mostly responsible for carrying out the required impact management actions along with the site manager.

The applicant must appoint a designated person for the function of internal/in-house ECO and an external, suitably qualified Environmental Assessment Practitioner for the function of external, independent ECO.

8.8 Time periods within which the impact management actions must be implemented

Planning and Design Phase

The management actions for the Planning and Design Phase must be completed before the Pre-construction Phase is commenced with.

Pre-construction Phase

The management actions for the Pre-construction Phase must be completed before the Construction Phase is commenced with.

Construction Phase

The management actions for the Construction Phase must be completed prior to the completion of the Construction Phase (i.e. before the Operational Phase is commenced with). Rehabilitation should be conducted concurrent with construction as far as possible. Any additional rehabilitation should be conducted within one year from the completion of construction.

Operational Phase

The management actions for the Operational Phase must be implemented during the Operational Phase, on a continual basis.

8.9 Mechanism for monitoring compliance with the impact management actions

Please refer to Sections 8.5 and 8.6 of this EMPr.

8.10 Program for reporting on compliance, taking into account the requirements as prescribed by the EIA Regulations, 2014, as amended

Table 4: Reporting program

Type of reporting	Reporting Frequency	Authority to report to
Construction Phase		
Monthly independent ECO compliance audits	Monthly, for the duration of the construction phase	Competent Authority (MDARDLEA)
Post-construction phase independent ECO compliance audit	Once-off, upon completion of the construction phase	Competent Authority (MDARDLEA)
Operational Phase		
Monthly independent ECO compliance audits	N/A – Internal	N/A – Internal
Annual external ECO compliance audits	Annually	Competent Authority (MDARDLEA)

9. ENVIRONMENTAL AWARENESS PLAN

The applicant will ensure that its employees are adequately informed of the environmental risks that may result from work that they conduct onsite and how these risks must be dealt with in order to avoid pollution or the degradation of the environment, through the implementation of this Environmental Awareness Plan.

The Environmental Awareness Plan for the New Township Establishment for Mlangeni Family Trust consists of two parts, namely, initial Induction Training and ongoing job-specific, Toolbox-talk Training. The same training material will be utilised during both the Induction Training and Toolbox-talk Training.

Induction Training

Before any employees or contactors commence work at the project site, each individual must undergo an Induction Training session. This is required during the following phases of the proposed project:

- Pre-Construction phase;
- Construction phase (including rehabilitation); and
- Operational phase.

An attendance register must be kept by the Applicant and each individual who has completed the Induction Training must complete the attendance register. This will also function as an acknowledgement that each individual has understood the training received.

Toolbox-talk Training

Toolbox-talk Training must be conducted biannually during the operational phase of the proposed development and all operational employees must attend these sessions.

An attendance register must be kept by the Applicant and each individual who has completed the Toolbox-talk Training must complete the attendance register. This will also function as an acknowledgement that each individual has understood the training received.

Training Material

The same material will be used for both the Induction Training and Toolbox-talk Training sessions and will cover the following topics:

- What is meant by the term “environment”;
- Why the environment requires protection;
- The environmental risks that may result from work that is performed at the project site, during the above mentioned phases of the project;
- How the identified risks may impact upon the environment;
- How the identified risks can be mitigated;
- The protection of workers who refuse to do environmentally hazardous work, as provided for in the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended;
- Environmental Management Programme conditions that are specifically applicable to employee’s work onsite;
- Fire-fighting procedures; and
- Hydrocarbon spill response procedure, including spill kit usage training.

The training can be presented in a verbal format if required.

10. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No specific information has been required by the Competent Authority at this stage of the application process.