Langspruit Landgoed (Pty) Ltd.

Draft Basic Assessment Report

Locality: Standerton

Departmental Ref No: 17/2/3 GS-125

January 2013

SHANGONI
Management Services (Pty) Ltd

DRAFT BASIC ASSESSMENT REPORT

Langspruit Landgoed (Pty) Ltd.

Draft Basic Assessment Report

Locality: Standerton

Departmental Ref No:17/2/3 GS-125

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PROJECT DETAILS

Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET)

Reference No.: 17/2/3 GS-125

Project Title: Expansion of the Langspruit Boerdery Broiler Facilities

Project Number: LAN-LAN-12-05-17

Compiled by: Ms. Patricia van der Walt

Date: 16 January 2013

Location: Portion 48 of the farm Diepspruit 414 IS, Mpumalanga

Technical Reviewer: Mr. Lourens de Villiers

Signature

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DEFINITIONS

‘Best Practicable Environmental Option’

Is the option that provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term. In determining the best practicable environmental option, adequate consideration must also be given to opportunity costs.

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 Aspects

Elements of an organization’s activities, products or services that can interact with the environment.

Environmental Degradation

Refers to pollution, disturbance, resource depletion, loss of biodiversity, and other kinds of environmental damage; usually refers to damage occurring accidentally or intentionally as a result of human activities.

Environmental Impacts

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 study of the environmental consequences of a proposed course of action.

Environmental Impact Report

A report assessing the potential significant impacts as identified during the environmental impact assessment.

Environmental impact

An environmental change caused by any human act.

GINI Coefficient

Is used as a measure of the distribution of income across a group of people. The number can range between 0 and 1 where “0” represents a perfectly equitable distribution and “1” a completely inequitable distribution.

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.

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.

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.

ABBREVIATIONS

BID	-	Background Information Document
BAR	-	Basic Assessment Report
CRR	-	Comments and Responses Report
MPDEDET	-	Mpumalanga Department of Economic Development, Environment and Tourism, Mpumalanga
DWA	-	Department of Water Affairs
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
GN	-	Government Notice
I&AP	-	Interested and Affected Party
NEMA	-	National Environmental Management Act, Act 107 of 1998, as amended
R	-	Regulation

EXECUTIVE SUMMARY

The farming company Langspruit Boerdery, located on the farm Diepspruit, is owned by Langspruit Landgoed (Pty) Ltd. The farm is contracted to supply chickens at a live-weight of approximately 2kg to the Earlybird Farm abattoir facility. Langspruit Boerdery plans to expand their broiler facilities in the near future, to meet current demand for Chiken in South Africa. The proposed expansion entails the construction and operation of eight new poultry broiler houses, each with the capacity to house 26 000 chickens.

In accordance with the regulations published in GN R 543 and R 544 of 18 June 2010, in terms of section 24D of the National Environment Management Act, 1998 (Act No. 107 of 1998), the applicant is required to carry out a Basic Environmental Impact Assessment for the following activity:

Listing notice 1, R. 544 of 18 June 2010, Activity No. 32: 'The expansion of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by: (ii) more than 5 000 poultry per facility situated outside an urban area.'

The purpose of this document is to supply the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET) with the requested information pertaining to the National Environmental Management Act (NEMA), as amended, and Regulation 22 of the Environmental Impact Assessment Regulations, 2010.

Contained in this document is a brief overview of the activity and site specific information for the proposed expansion project (location, topography, surrounds, vegetation, etc.). The latter part of the document contains an environmental management framework that includes a reflection of applicable legislation, the public participation process followed, the need and desirability of the project, identified alternatives, a quantitative risk assessment, and an environmental management plan.

Document layout:

Section one – Introduction

The purpose of this section is to provide a brief overview of the current operation, proposed activity and locality, applicable infrastructure and potential environmental licensing required.

Section two – Nature and extent of the environment affected by the activity

The status of the environment in which the farm is situated is discussed in section 2. The environmental areas, geology, climate, topography, soil, land use and land capability, fauna and

flora, surface water, groundwater, archaeological and cultural sites, visual aspects, air quality and socio-economic aspects are described in this section.

Section three – Legislation and guidelines applicable

Section three lists all environmental legislation and guidelines applicable to the proposed project.

Section four – Public participation process

This section provides information pertaining to the consultation process that will be followed during this basic assessment process.

Section five – Need and desirability for the activity

Section five describes the need and desirability of this project from the perspective of the developer, local community and the district municipal area.

Section six – Identified alternatives

Section six considers alternatives to project site selection for the proposed development; alternatives to layout of the development; and alternatives to construction methodologies and/or materials used for the development.

Section seven – Environmental Impact Assessment

In section seven, all activities related to the proposed expansion of the broiler facility that could have an environmental impact, were identified. The environmental risk each impact poses is then determined based on a combination of parameters associated with the impact, such as extent and duration. The feasibility of the project can then be determined based on the outcomes of the risk assessments coupled with the recommendations made by the EAP.

1. INTRODUCTION

This report forms part of an application for environmental authorisation for the proposed broiler farm expansion on Portion 48 of the farm Diepspruit 414 IS, Mpumalanga. The site is approximately 16.8km east of Standerton. Shangoni Management Services (Pty) Ltd. was appointed, as an independent environmental practitioner, to assist the applicant, Langspruit Landgoed (Pty) Ltd., in complying with the 2010 EIA Regulations in terms of the National Environmental Management Act (Act No. 107 of 1998).

An application to undertake an Environmental Impact Assessment (Basic Assessment) process was submitted to the identified competent authority, the Mpumalanga Department of Economic Development, Environment and Tourism (MPDEDET). The Department subsequently registered the project and the formal Basic Assessment (BAR) process was thereby initiated.

All the findings from the Basic Assessment process are included in this report. Also included in the report is a construction- and operational- Environmental Management Plan (EMP) that addresses appropriate mitigation steps for the different phases of the project.

1.1 Applicant

Name of Applicant	Langspruit Landgoed (Pty) Ltd.
Contact Person	Mr. Gert du Preez
Postal Address	Posbus 433 Standerton 2430
Telephone No.	017 712 3186
Cell phone No.	082 449 5263
Fax No.	086 697 7664
Farm name and portion on which the activities take place	Portion 48 of the farm Diepspruit 414 IS, Mpumalanga
Co-ordinates of operation	26°56'54.36"S 29°25'1.53"E

1.2 Appointed Environmental Assessment Practitioner

Name of firm	Shangoni Management Services (Pty) Ltd.	
Postal address	PO Box 74726 Lynwood Ridge Pretoria 0040	
Telephone No.	(012) 807 7036	
Fax	(012) 807 1014/086 643 5360	
E-mail	lizette@shangoni.co.za	
Team of Environmental Assessment Practitioners on project		
Name	Qualifications	Responsibility
Mr. H.L. de Villiers	Bsc. (Hons) (PU for CHE) MSc.(UP)	EIA Project Leader and Co-ordinator
Ms. Lizette Crous	Post Graduate Certificate Environmental Management (University of London)	EAP
Ms. Patricia van der Walt	B.Sc. (Hons) (Applied Science in Environmental Technology)	Junior EAP

Detailed CV's for the project team are appended (Appendix F).

1.3 Current operation

The farm Diepspruit is owned by Langspruit Landgoed (Pty) Ltd. Chickens are raised on the farm and the farm's extent is 1 041.6130 ha. The site falls within the Lekwa Local Municipality of the Gert Sibande District Municipality, Mpumalanga Province.

The farm is contracted to supply chickens at a live-weight of approximately 2kg to the Earlybird Farm abattoir facility.

1.3.1 Current design

Langspruit Boerdery currently has eight poultry broiler houses on the farm, each with a surface area of 1 800m² (120m x 15m), and capable of accommodating a maximum of 26 000 chickens.

Langspruit Boerdery uses automated feeding pans and drinking systems (Ziggity and Sunnystar). Suspended drinker lines with special nipple attachments allow for efficient distribution of clean drinking water to the chickens throughout the production cycle. The height of the drinker lines are adjusted as the chickens grow older and taller and the nipple attachments each act as a non-return valve that prevents the unnecessary spillage of water within the houses.

Automated systems aid in conserving resources (water and feed) by preventing unnecessary wastage and contamination of the resources. In this way automated systems have a positive impact on the environment and a corresponding reduction in production cost.

Heatco ovens are used to heat the broiler houses. These ovens use A-grade coal and are regularly serviced. Insulation and other design aspects of these houses ensure that heat is captured and retained for longer periods.

The interaction between broilers and their micro-environment is a significant problem in poultry production. A change in their micro-environment affects the broilers' growth rate, feeding efficiency, body weight and mortality rate. Changes in the facilities' micro-environment can be caused by factors such as seasonal changes, poor lighting and inadequate stocking density. A well defined micro-environment should therefore be maintained for optimum production.

Each broiler house is built to specifications that ensure optimal health and therefore optimal growth of the chickens. The houses have concrete floors and brick walls with tin roofs. The walls and ceilings of each house are cladded internally with insulation material (ISO panels).

The frame of each broiler house consists of a steel beam structure, specially designed and pre-fabricated off-site. During construction, the steel frames are assembled on the prepared concrete floor and then bricked up and roofed.

1.3.2 Current operational activities

The broiler operation comprises of approximately 7 production cycles per year with each cycle lasting approximately 35 days. At the end of each production cycle, a bird collection team from Earlybird Farm manually catch the full-grown chickens. The chickens are immediately put into cages and stacked onto a truck to be transported on the same day to the chicken abattoir.

Litter (Manure and bedding mixture)

Sunflower husks and wood shavings are used as bedding in each broiler house. Litter (mixture of manure and bedding) is kept dry by rotating it daily with shovels. After each cycle, the litter is cleaned out of the house and re-used as feed for the cattle on the farm.

Mortalities

Much care is given to the overall well-being of the chickens throughout each production cycle. Langspruit Boerdery follows a strict disease control- and vaccination programme as specified by Earlybird Farm.

However, a percentage of the chickens will not survive (mortalities) due to the limitations and challenges of each production cycle. The percentage of mortalities is estimated to be around 6%. Mortalities are currently incinerated on-site or fed to pigs raised on a different part of the farm.

Domestic waste and wastewater

Approximately 16 employees currently work on the farm. Domestic waste generated on the premises is removed by the farm owner and burnt in an old silo (26°56”59.99’S, 29°24”56.20’E).

Water Use

Abstraction: The farm is dependent on six onsite boreholes for the provision of clean water for domestic use as well as farming activities. Water in the broiler facility will mainly be used for the rearing of broilers and washing of houses. Fitted boreholes provide clean potable water to the farm. Each chicken uses approximately 6 litres for drinking water per cycle. Currently approximately 8 736m³ water is used per annum for poultry drinking water (calculated by: 8 houses x 26 000 broilers/house/cycle x 7 cycles/annum x 6liters/broiler x 1m³/1 000liters).

Currently a combined volume of 9 296m^3 (8 736m^3 drinking water + 560m^3 wash water) of water is used at the broiler facility.

Storage: The abstracted groundwater is currently stored in twelve JoJo tanks, with a combined storage capacity of 60m^3.

Wash water: The broiler operation undertakes approximately 7 production cycles a year. The broiler houses get cleaned and washed after each cycle. After each cycle approximately 80m^3 wash water is used to clean all the broiler houses, therefore approximately 560m^3 is currently used per annum (calculated by: 80m^3/ cycle x 7 cycles/annum). Detergents used for the washing of the houses include Supa wash and Vet Gluta Class (Gluta Elder Hyde).

Waste water generated from washing the broiler houses is channelled and discharged into the surrounding environment.

Domestic waste water: Domestic wastewater (sewage) generated on site, is disposed of into a French drain.

Electricity

Eskom electricity is the main power supplier. A backup diesel generator is available at the facility in the event of a power failure.

1.4 Proposed Activity

1.4.1 Proposed design

The proposed expansion entails the construction and operation of eight new poultry broiler houses. The additional developmental footprint will be approximately 5.3 hectares. The altered footprint will comprise of poultry broiler houses, office and residential buildings, internal road infrastructure, open spaces between the houses and a bio-security buffer zone surrounding all buildings.

The new broiler houses will be built to the same specifications and operated in the same way as the existing houses. Each new broiler house, with dimension of 120m X 15m, will have the capacity to house 26 000 chickens. The expansion will add 208 000 chickens to the current production capacity of the farm.

Two alternative sites have been identified for the new broiler houses (shown in the figure below). The first is to the south of the existing broiler houses and the second is to the east.

Figure 1: Proposed site alternatives.

1.4.2 Proposed operational activities

The broiler operation will continue to undertake approximately 7 production cycles a year, each cycle lasting approximately 35 days. At the end of each production cycle, a bird collection team from Earlybird Farm will manually catch the full-grown chickens. The chickens will immediately be put into cages and stacked onto a truck to be transported on the same day to the chicken abattoir.

Table 1: Current versus proposed activities.

Activity	Current	Proposed
Litter Management	Litter is disposed of by feeding it to the cattle on the farm.	Litter will be disposed of by feeding it to the cattle on the farm.
Mortalities Management	Mortalities are incinerated or fed to pigs.	Licensing and/or alternative disposal method.
Domestic waste Management	Burnt in old silo.	Licensing and/or alternative disposal method.
Waste wash water disposal	Into the surrounding environment.	Licensing and/or alternative disposal method. Recommendation: Disposal of wastewater into an

		evaporation pond.
Sewage disposal	French drain	French drain
Water Use	8 736m³/annum groundwater abstracted from boreholes.	17 472m³/annum groundwater abstracted from boreholes.
Water Storage	12 x JoJo Tanks (capacity of 60m^3) – Operational and domestic water resource. 30m^3 water reservoir - Emergency water resource.	12 x JoJo Tanks (capacity of 60m^3) – Operational and domestic water resource. 30m^3 water reservoir - Emergency water resource. Additional water storage in JoJo tanks might take place if required at a later stage.
Electricity use	Eskom and backup generator	Eskom and backup generator

1.5 Potential Environmental Licensing Required

1.5.1 Water

Registration

According to the GN 288 General Authorisations, dated April 2012, 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.

After the proposed expansion, Langspruit Boerdery will use approximately 2 496m^3 of groundwater per cycle, which means they will use approximately 71.31m^3 groundwater per day (calculated by: 2 496m³/cycle x 1cycle/35days). In the event of an emergency, surface water may be abstracted to aid in fighting of a fire or stored, in a 30m^3 cement dam, as a reserve in times of water shortage. Groundwater is abstracted and used in the operation. Abstracted groundwater is stored in twelve JoJo tanks, with a combined capacity of 60m^3. Additional JoJo tanks would need to be installed after the proposed expansion. The abstraction and storage of water will therefore require registration with the responsible authority.

Licensing

The site area falls within the Vaal River catchment in the upper reaches of the Vaal River (Upper Vaal Water Management Area or WMA). Table 1 (Surface water abstraction and storage volumes) 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 the maximum volume of surface water that may be abstracted from this property is 2000m^3 a year at a maximum rate of 1l/s. Table 1 of GN 288 also states that a maximum storage of 2 000m^3 of water may occur on this property.

In the event of an emergency, surface water may be abstracted to aid in fighting of a fire or stored, in a 30m^3 cement dam, as a reserve in times of water shortage. Currently water used in the operation is stored in twelve JoJo tanks, with a combined capacity of 60m^3. Additional JoJo tanks would need to be installed after the proposed expansion. A license in terms of Chapter 4 of the National Water Act, 1998 may therefore be required in terms of the volume and rate at which surface water is abstracted.

The property falls within the C11L quaternary drainage region. 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 75m^3 water may be abstracted per hectare per year in the C11L quaternary drainage region.

The property is 1041.6130 hectares in size. This means that under General Authorisations 78 120.975m^3 may be abstracted on this property per year. The abstraction of approximately 17 472m³ of groundwater per year, to be used at the broiler facility, is less than the amount (78 120.975m^3) that is generally authorized. A license in terms of Chapter 4 of the National Water Act, 1998 is therefore not required for the abstraction of groundwater from the boreholes on site.

Domestic wastewater (sewage), generated on site, is disposed of into a French drain. As a result of the wastewater disposal site (French drain) being further than 100m from any of the boreholes, a license in terms of Chapter 4 of the National Water Act, 1998 is not required for the French drains.

1.5.2 Waste

The Animal Health Act, 2002 (Act No. 7 of 2002) regulates disposal of animal carcasses, such as chicken mortalities are excluded from the National Environmental Management: Waste Act (Act No. 59 of 2008).

Disposal of domestic waste generated on a premise in areas not serviced by the municipal service may not exceed 500kg per month. Should the waste disposed of on the premise exceed 500kg per month, a license in terms of Section 19(1) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), would be required.

1.5.3 Atmospheric emissions

The incineration of mortalities and domestic waste after the proposed expansion is subject to licensing as it is a listed activity (Category 8) in terms of Government Notice No. 248 as contemplated in Section 21(1)(a) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA). An atmospheric emission license application is required for activities listed in terms of NEM:AQA.

Research and consultation is required to determine which technology, design and process would be the most economically, socially and environmentally sustainable option for the handling, storage and disposal of mortalities.

1.6 Proposed Locality

The site is located approximately 16.8km east of Standerton on Portion 48 of the farm Diepspruit 414 IS within the Lekwa Local Municipality of the Gert Sibande District Municipality, Mpumalanga Province. The GPS coordinates for the site are: 26°56'54.36"S; 29°25'1.53"E.

Table 2: Direction and distance to the nearest town

Closest town	Approximate distance from site	Direction from town
Standerton	16.8 km	East

The site locality map and site photos can be seen in Figure 2 to Figure 20 below.

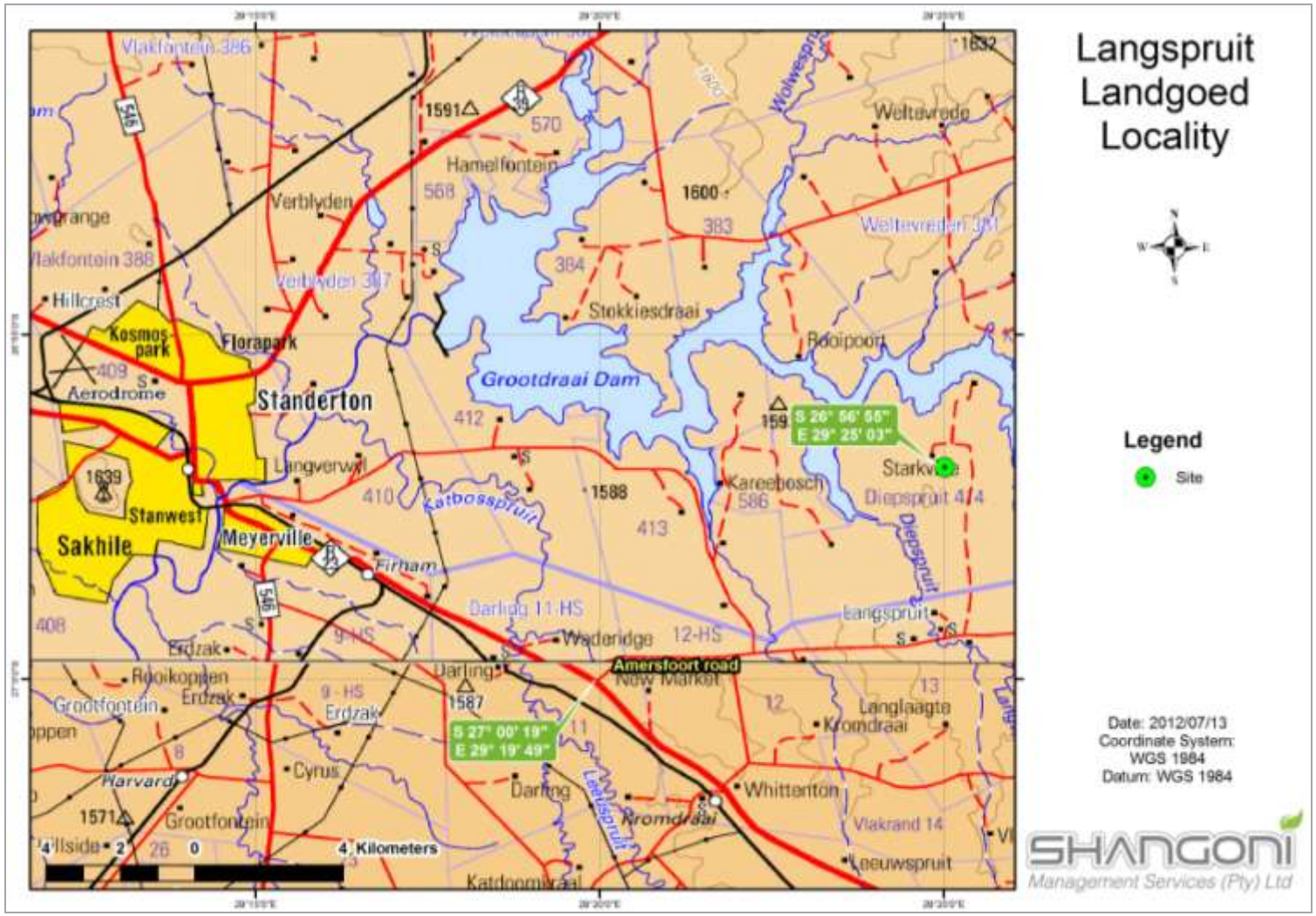


Figure 2: Site locality map.

Figure 3: Photograph of the current broiler houses.

Figure 4: Photograph of an existing poultry house and its feeding silos.

Figure 5: Photograph of a water reservoir, store room and JoJo tanks in the distance (at the existing broiler facility).

Figure 6: Photograph of the coal storage area and JoJo tanks at the existing broiler facility.

Figure 7: Photograph of a coal fired heater at the existing facility (1).

Figure 8: Photograph of a coal fired heater at the existing facility (2).

Figure 9: Photograph of the existing broiler houses in opposite direction to Figure 2.

Figure 10: Photograph of an existing broiler house and wash water trench.

Figure 11: Site alternative 1 (1)

Figure 12: Site alternative 1 (2)

Figure 13: Site alternative 1 (3)

Figure 14: Site alternative 1 (4)

Figure 15: Site alternative 1 (5)

Figure 16: Site alternative 2 (1)

Figure 17: Site alternative 2 (2)

Figure 18: Site alternative 2 (3)

Figure 19: Site alternative 2 (4)

Figure 20: Site alternative 2 (5)

2. NATURE AND EXTENT OF THE ENVIRONMENT AFFECTED BY THE ACTIVITY

The following section provides a description of the baseline or status quo environment as well as the social-economic parameters that characterise the region and the study area, and is derived from various specialist studies as well as data sources including aerial photographs, topo-cadastral maps and national and provincial databases.

2.1 Biophysical aspects affected

2.1.1 Geology

In general, the area is underlain by sandstone, shale or mudstone of the Madzaringwe Formation, of the Karoo Supergroup, or the intrusive Karoo Suite dolerites that are very common in the area. In the south, rocks of the Volksrust Formation (Ecca Group, Karoo Supergroup) are found while rocks of the older Transvaal, Witwatersrand and Ventersdorp Supergroups are found to the west (Mucina & Rutherford, 2006).

The site itself is underlain by fine-grained felsic rocks of the Karoo Dolerite Suite (Refer to Figure 21).

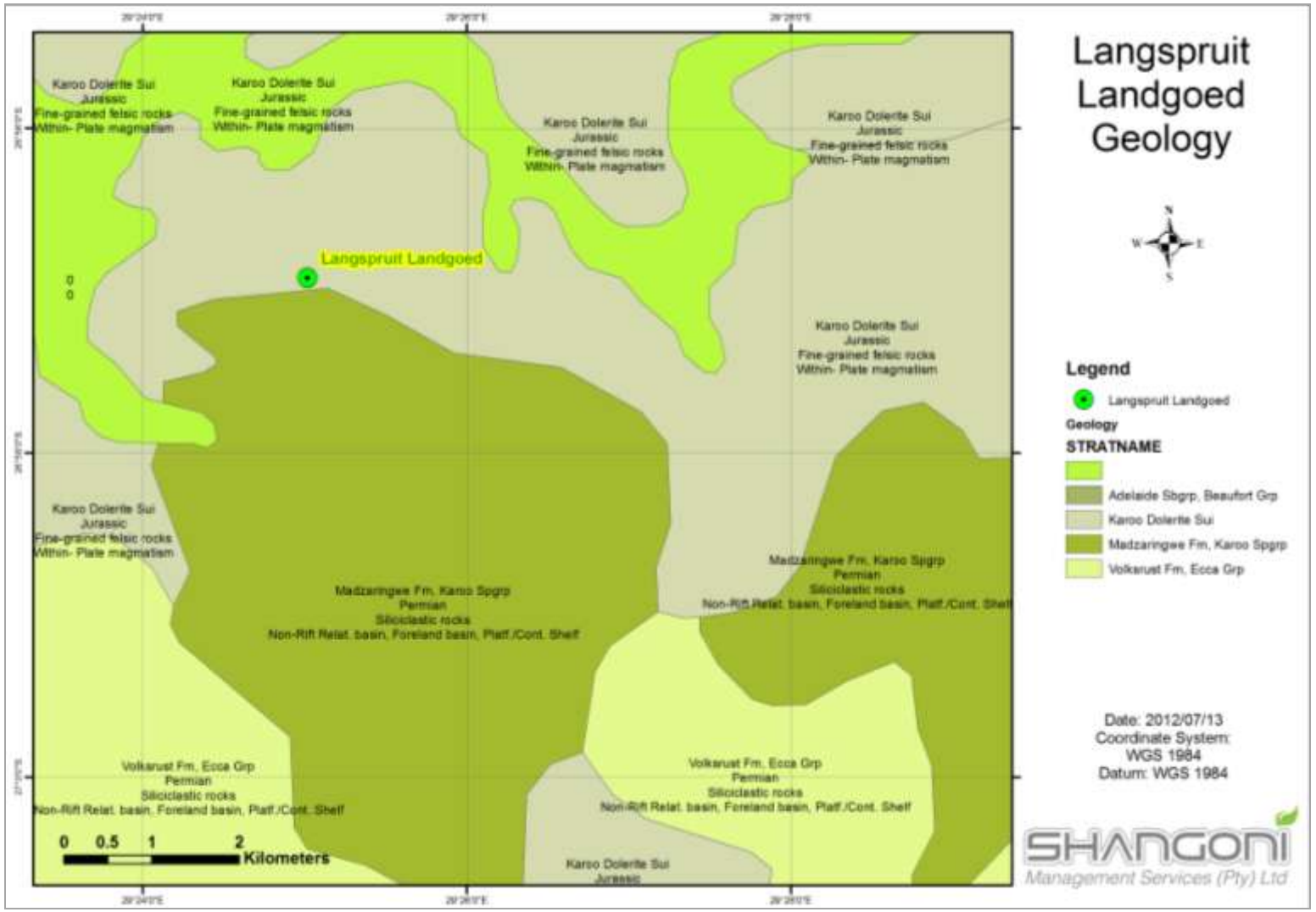


Figure 21: Langspruit Landgoed geology.

2.1.2 Regional climate

The site falls within a cool-temperate climate with thermic continentality. The area experiences high extremes between maximum summer and minimum winter temperatures, frequent occurrence of frost and large thermic diurnal differences especially in autumn and spring (Mucina & Rutherford, 2006).

Rainfall

The site lies in a summer rainfall area receiving a mean average annual rainfall of between 621.42 – 752.36mm. The variability of rainfall as well as the high intensity events will affect the construction phase of the project. It could hinder construction activities with potential soaking of cement mixtures or foundation concrete during the early phases of the construction process.

Construction should preferably be planned for the winter months to avoid construction delays that might have a negative socio-economic impact on the development.

The potential impact of rainfall should be low if mitigated properly.

The site is approximately 16.8km east of Standerton. The Average Monthly Rainfall (Refer to Figure 22) for the area was obtained from the Standerton weather station, as provided by www.weathersa.com. The Average Annual Rainfall for Standerton is also provided by www.weathersa.com (Refer to Figure 23).

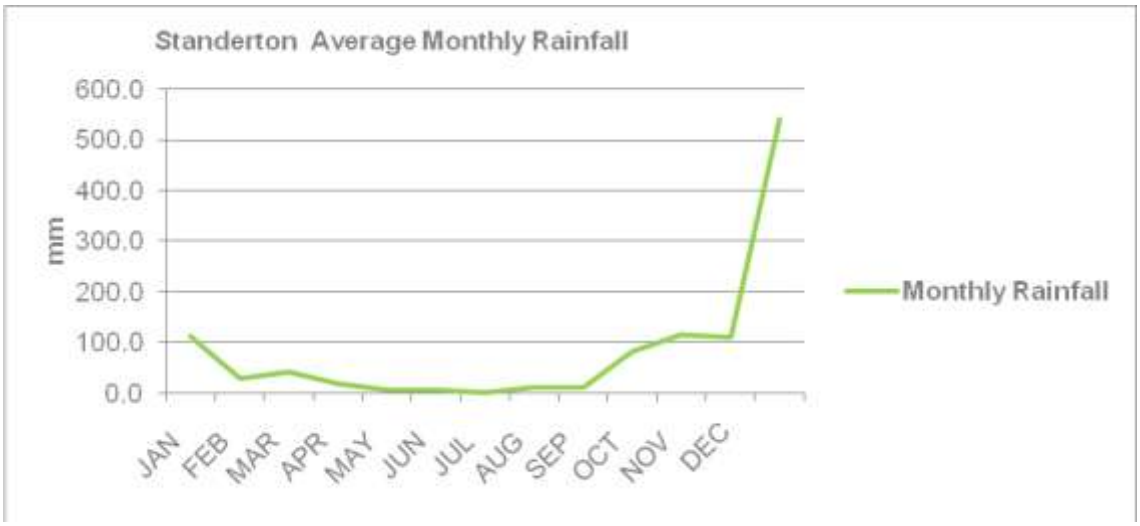


Figure 22: Standerton Average Monthly Rainfall.

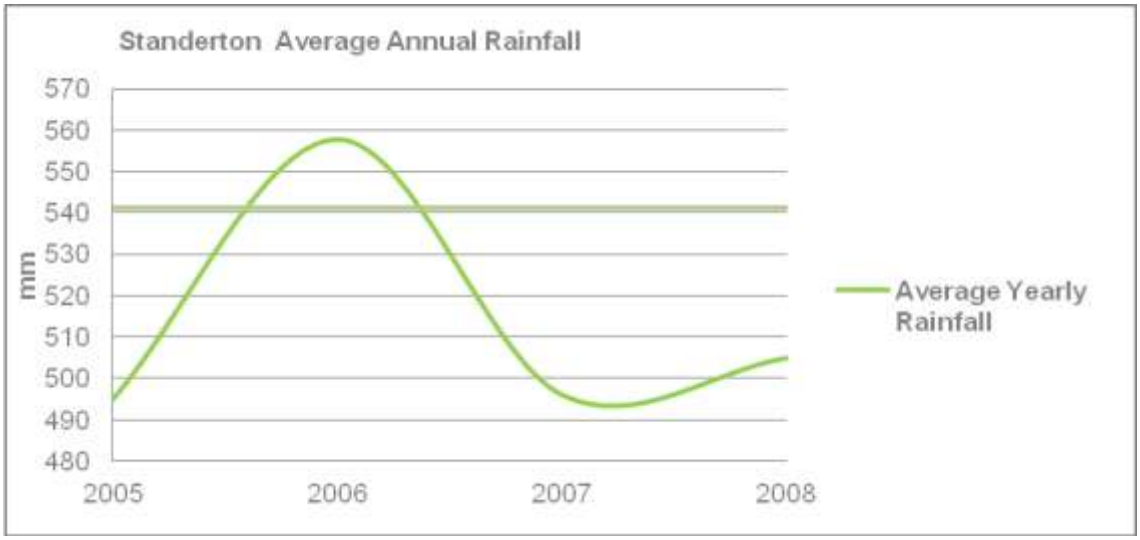


Figure 23: Standerton Average Annual Rainfall.

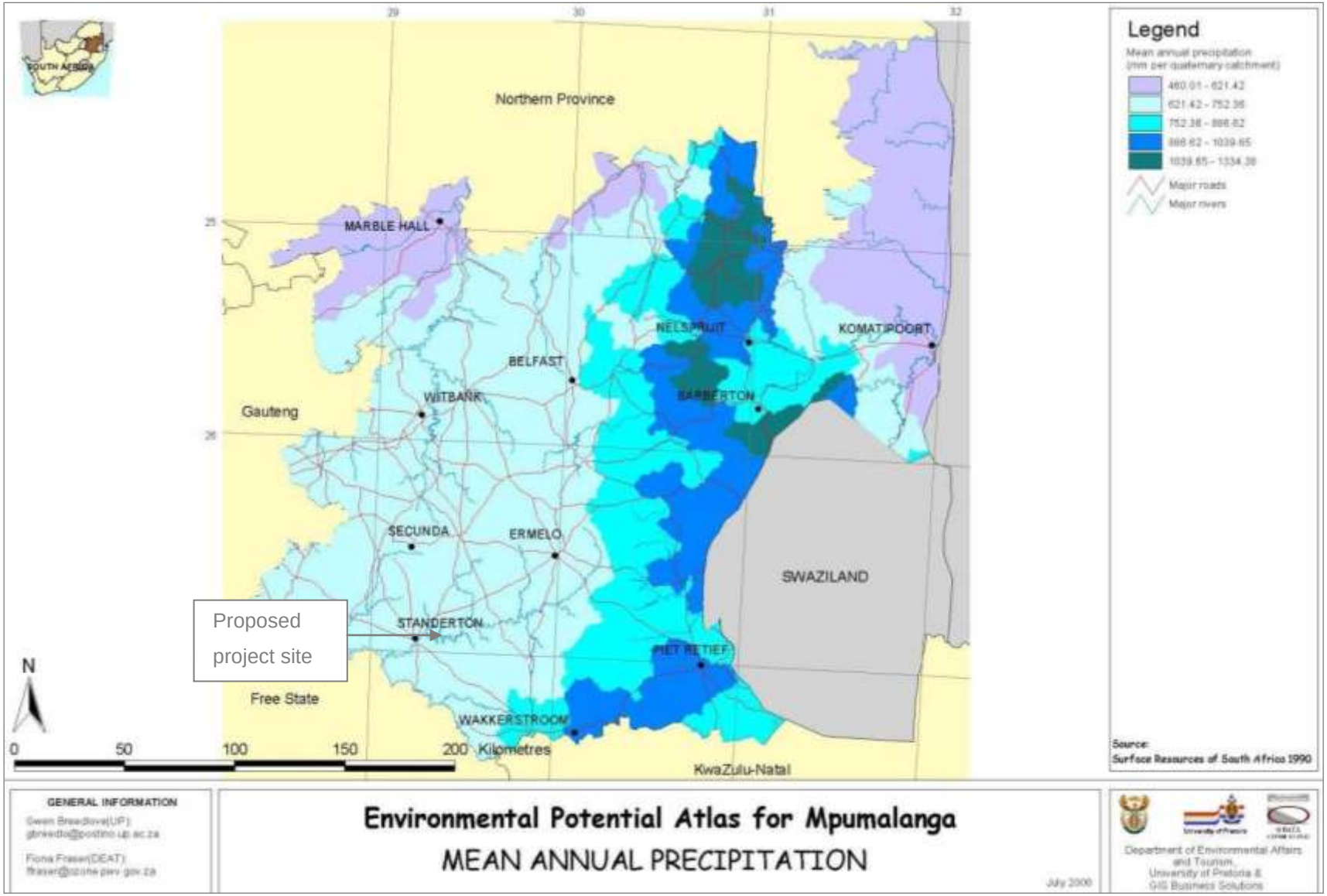


Figure 24: Mean annual precipitation in Mpumalanga.

Temperature

Annually the mean maximum temperature will range between 21.1°C and 27°C and the mean minimum temperature will range between -1,9°C and 10°C (AGIS Comprehensive Atlas, 8 May 2012).

In order to obtain a more accurate representation of the temperatures at the broiler facility, average daily temperatures were obtained from the Standerton weather station (www.weathersa.com).

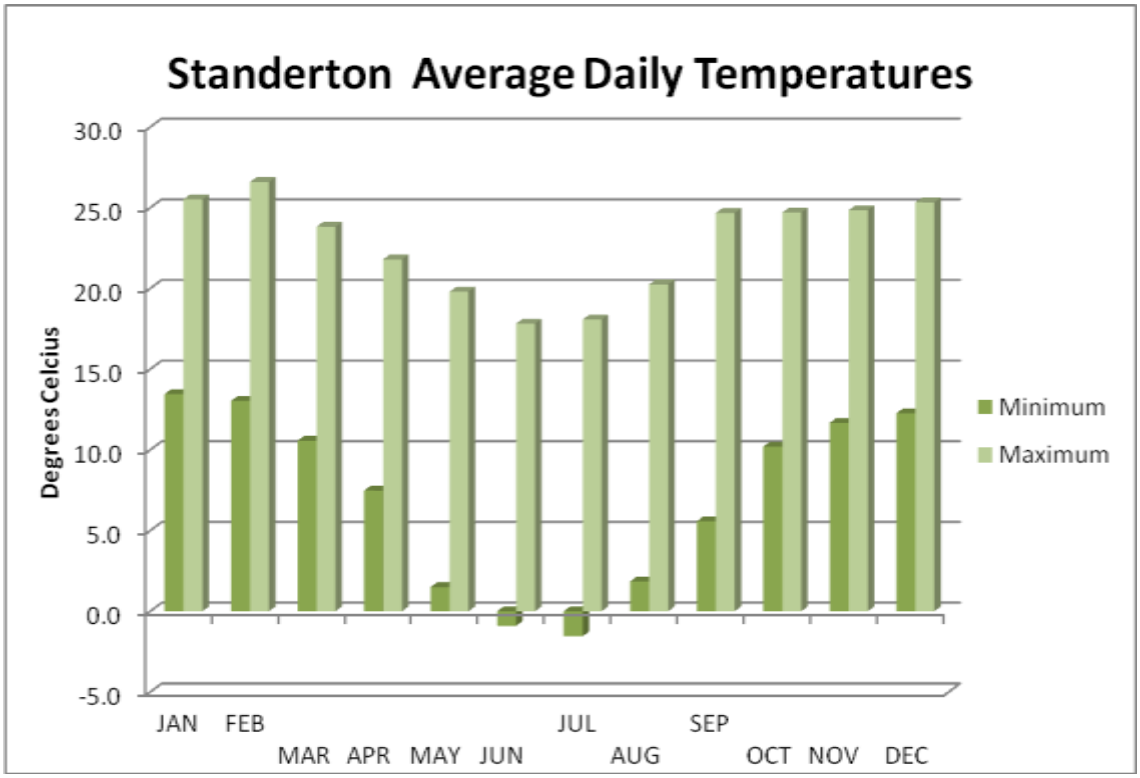


Figure 25: Standerton Average Daily Temperatures.

Wind

The site is approximately 16.8km east of Standerton. See the figures below for wind roses of Standerton from January to December.

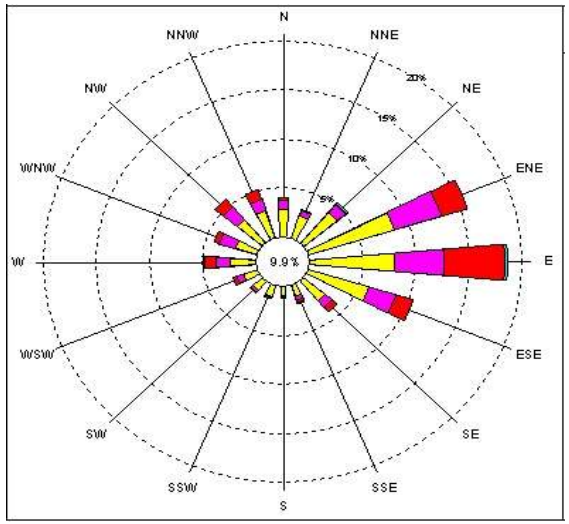


Figure 26: Wind Rose – January.

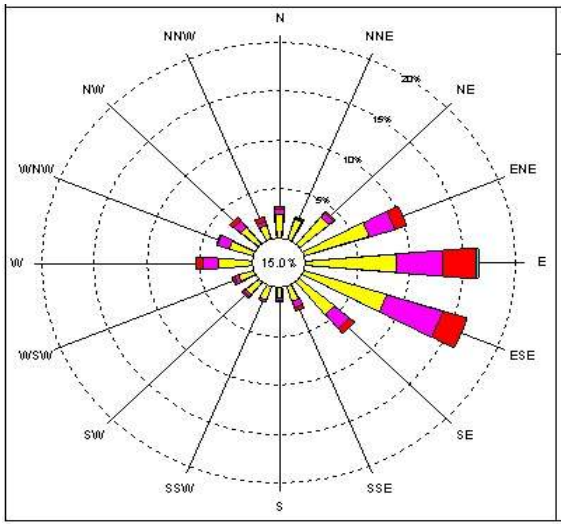


Figure 27: Wind Rose – February.

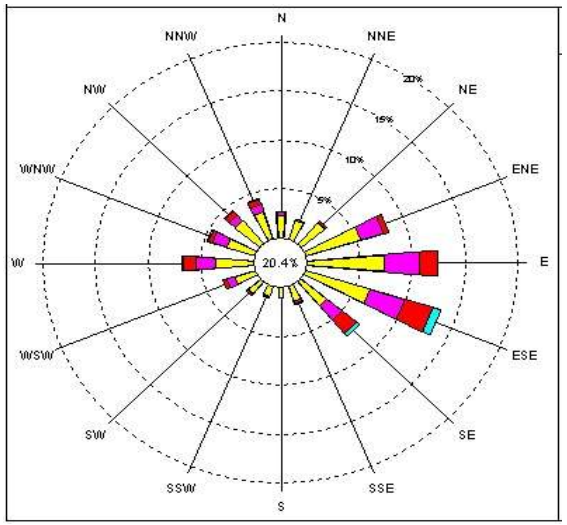


Figure 28: Wind Rose – March.

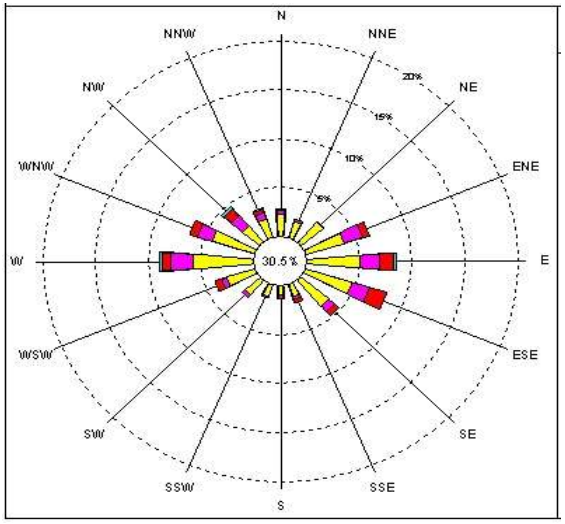


Figure 29: Wind Rose – April.

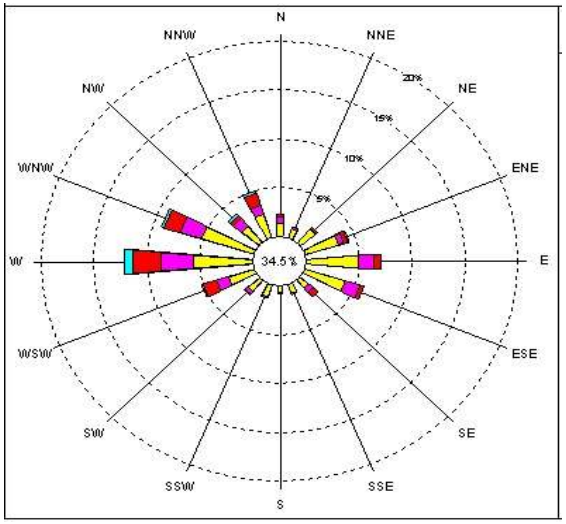


Figure 30: Wind Rose – May.

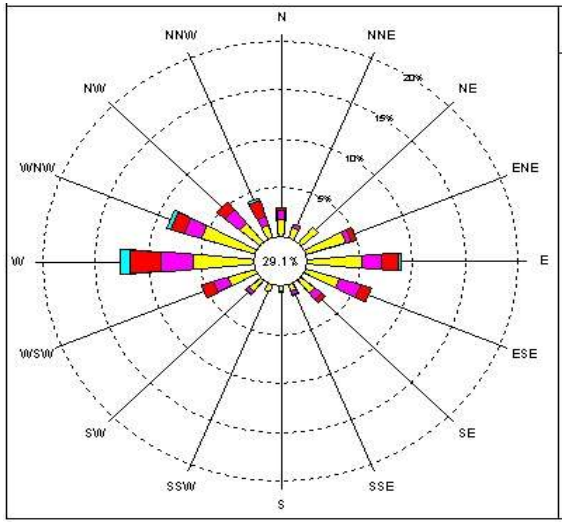


Figure 31: Wind Rose – June.

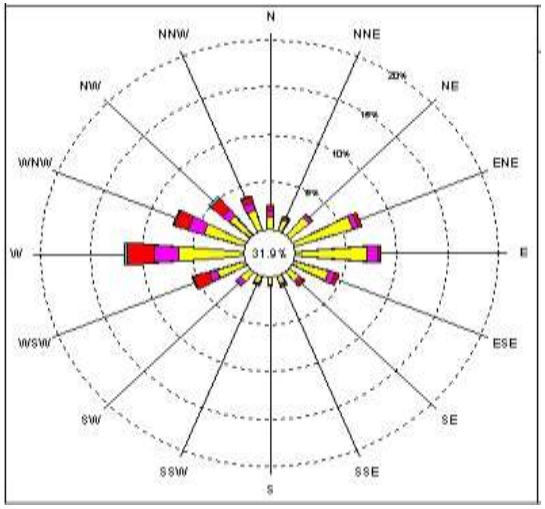


Figure 32: Wind Rose – July.

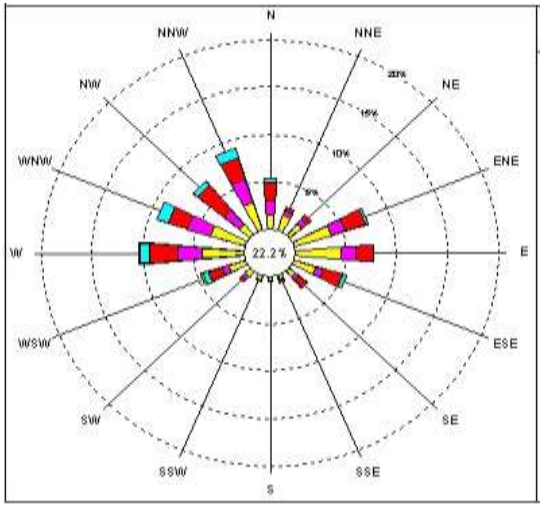


Figure 33: Wind Rose – August.

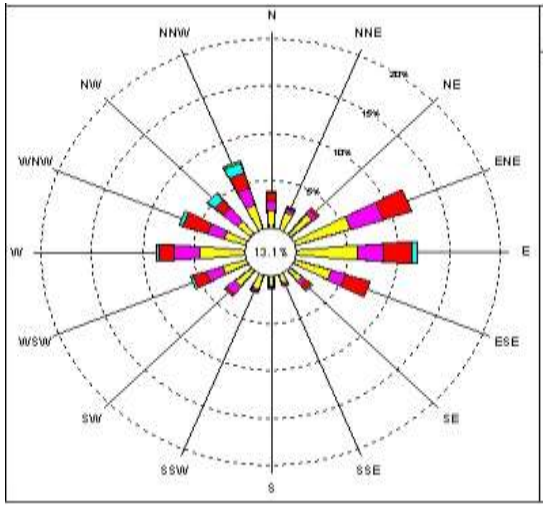


Figure 34: Wind Rose – September.

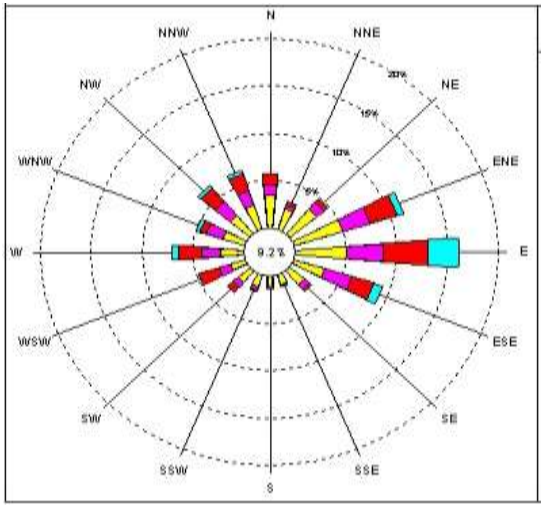


Figure 35: Wind Rose – October.

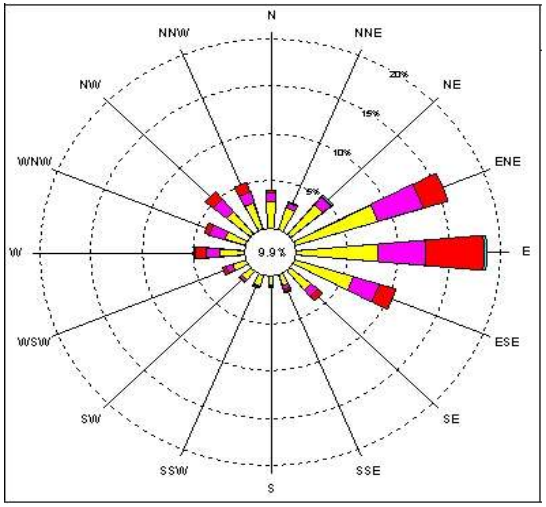


Figure 36: Wind Rose – November.

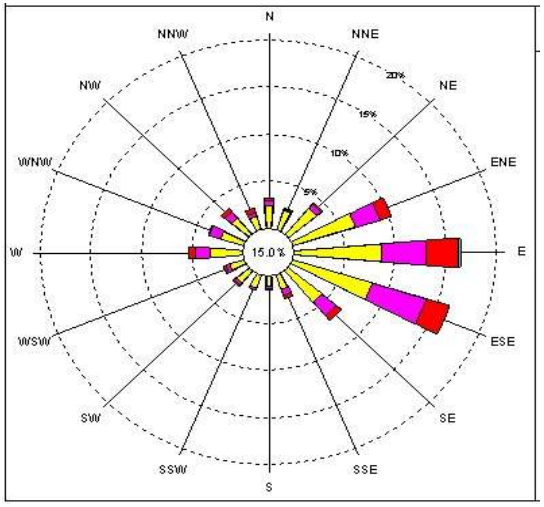


Figure 37: Wind Rose – December.

2.1.3 Topography

The Soweto Highveld Grassland has a gentle to moderately undulating landscape, supporting short to medium-high, dense, tufted grassland. The site is located approximately 1 583 metres above mean sea level.

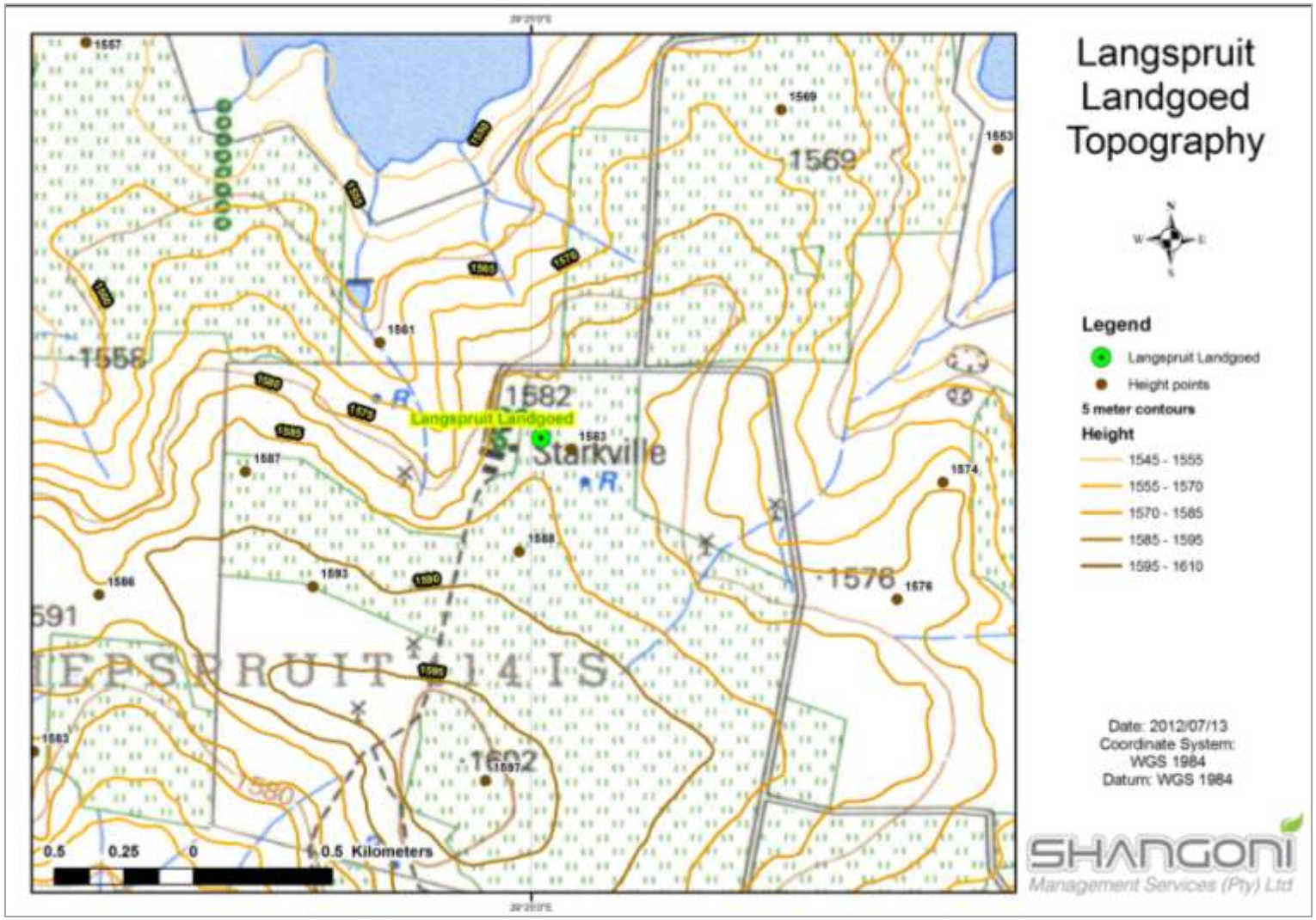


Figure 38: Topography Map of Site.

2.1.4 Soils

The soil type of the project site is S5 (Refer to Figure 39). These are swelling clay soils with high natural fertility. The soils have high swell-shrink potential and are very plastic and sticky.

Topsoil is the uppermost layer of soil and seen as a valuable resource because of its high concentration of organic matter and microorganisms. Plants obtain most of their nutrients from this soil layer.

The Environmental Potential Atlas for South Africa describes the soil found in the region of the site as black and red strongly structured clayey soils with a high base status (Refer to Figure 48). Topsoil in the area ranges in depth from 450mm to 750mm (Refer to Figure 42) and non-calcarious soils (Refer to Figure 41) with a high natural fertility can be expected (≥35% clay) (Refer to Figure 43).

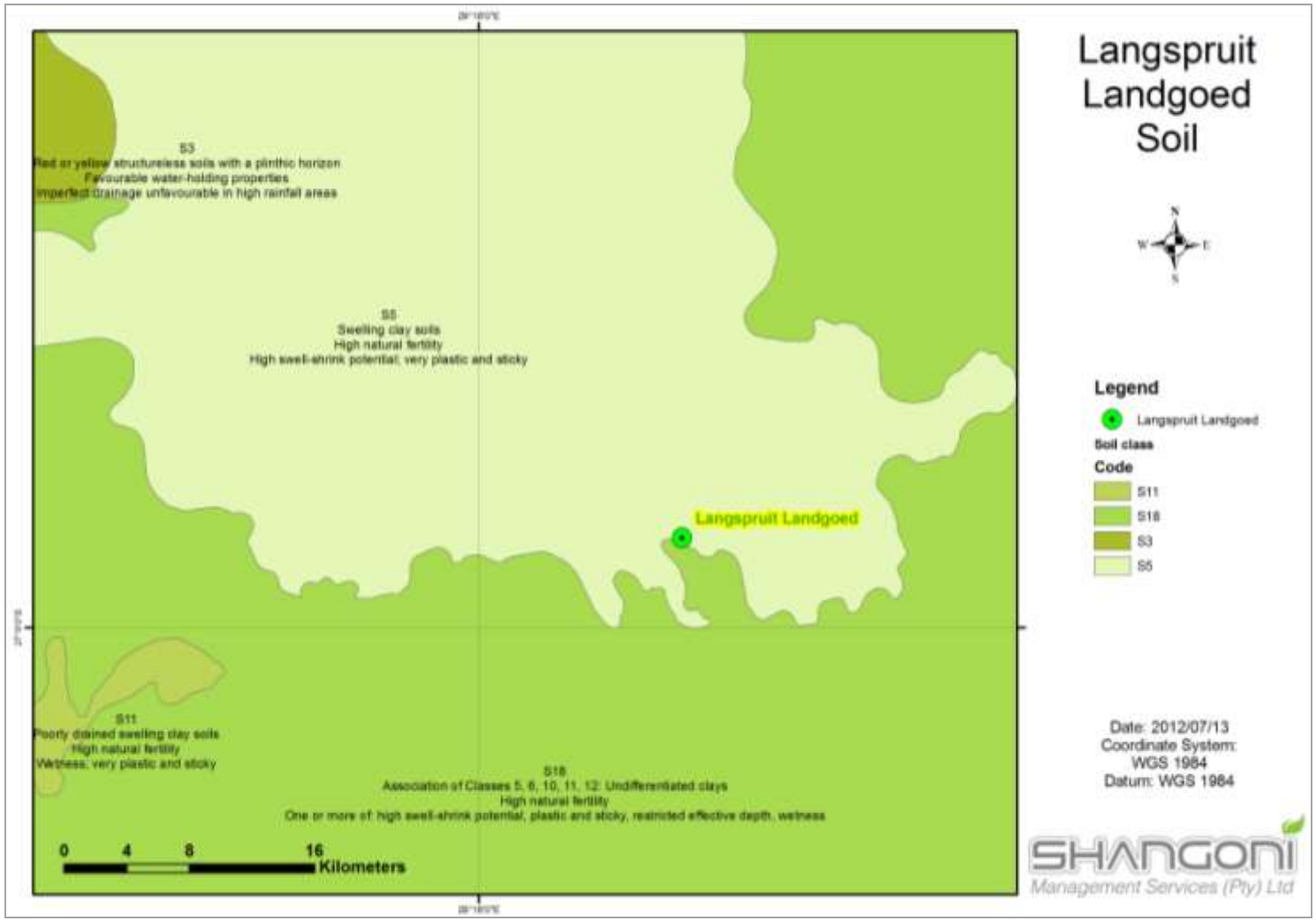


Figure 39: Soil map.

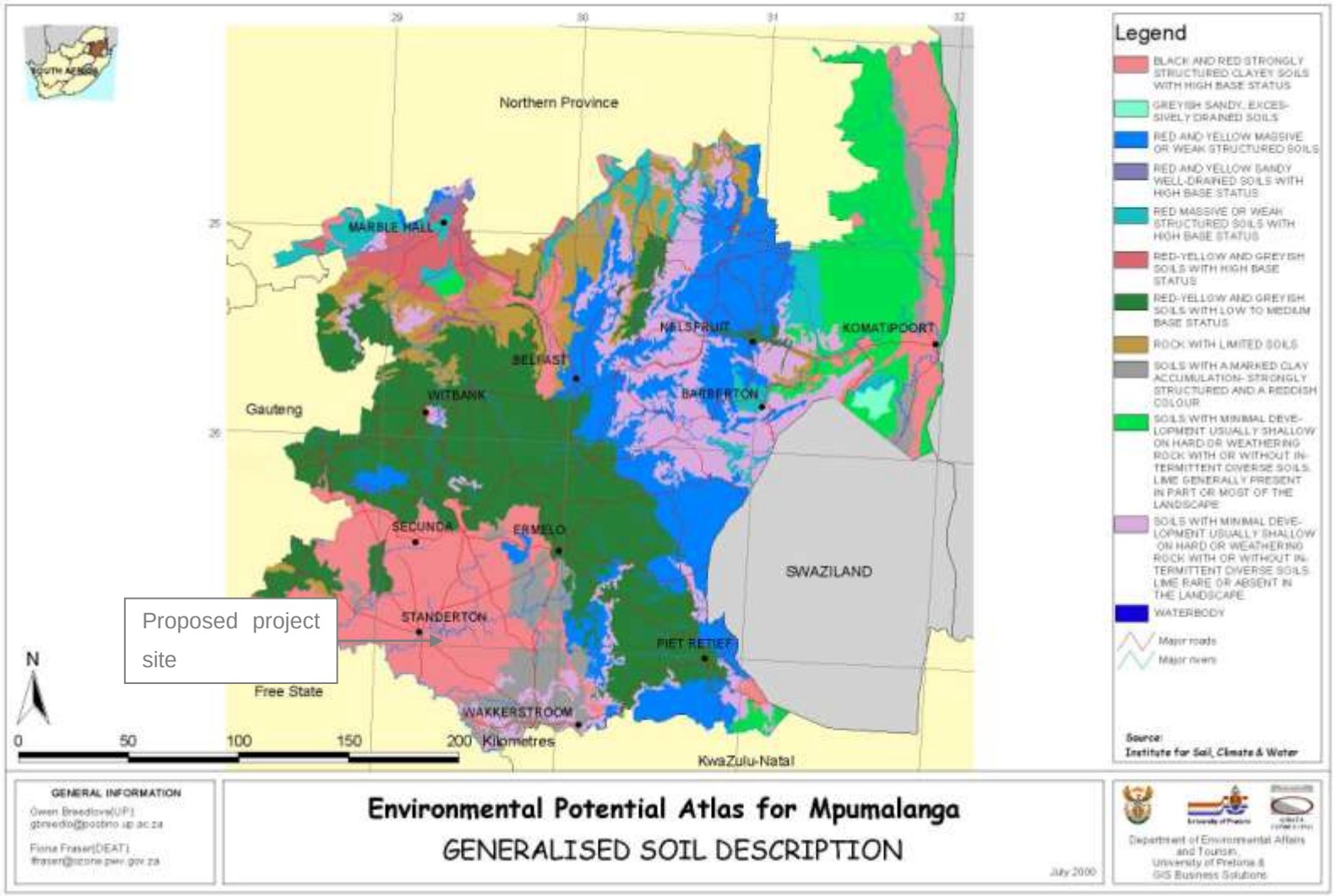


Figure 40: General soil description for Mpumalanga.

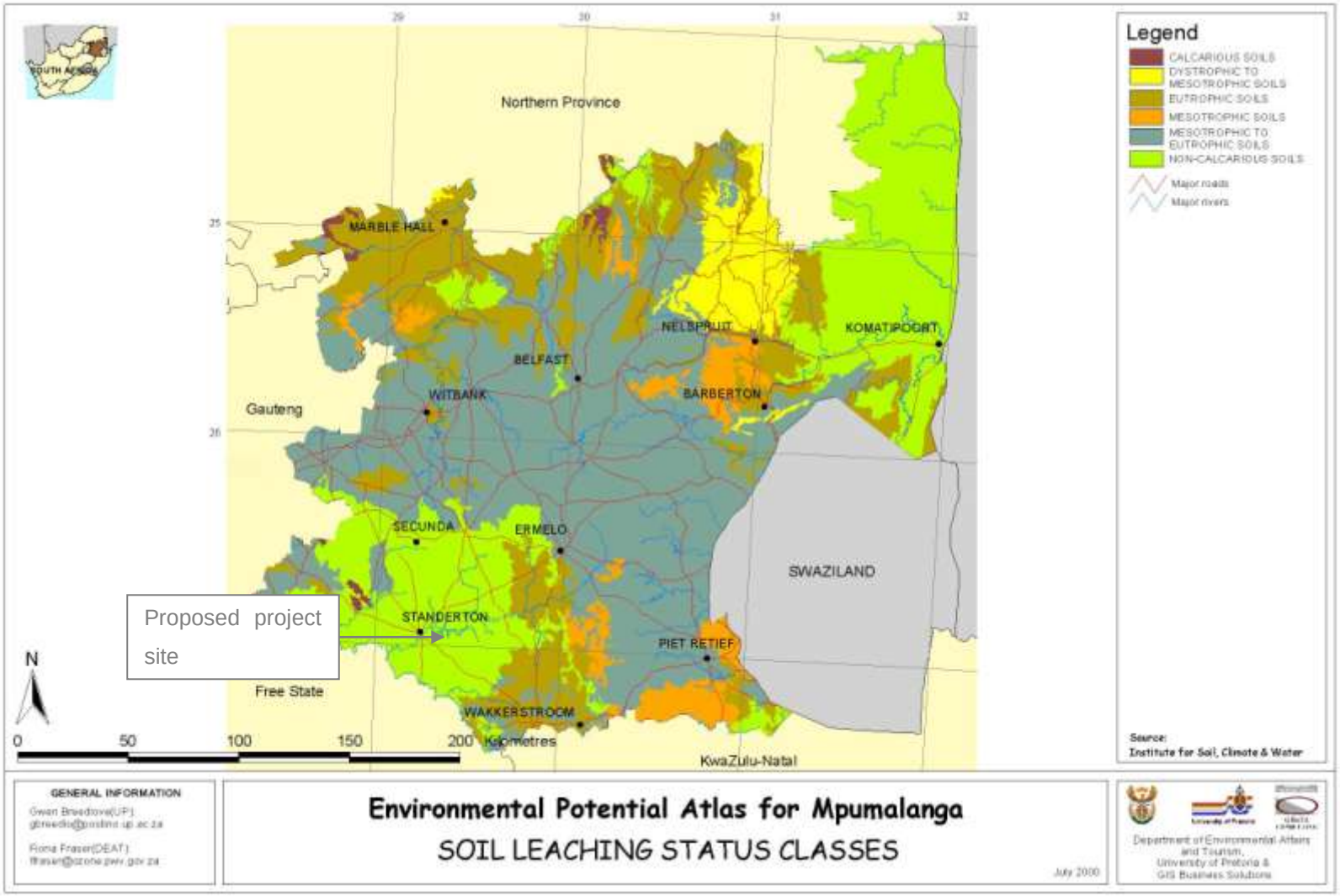


Figure 41: Soil leaching status classes for Mpumalanga.

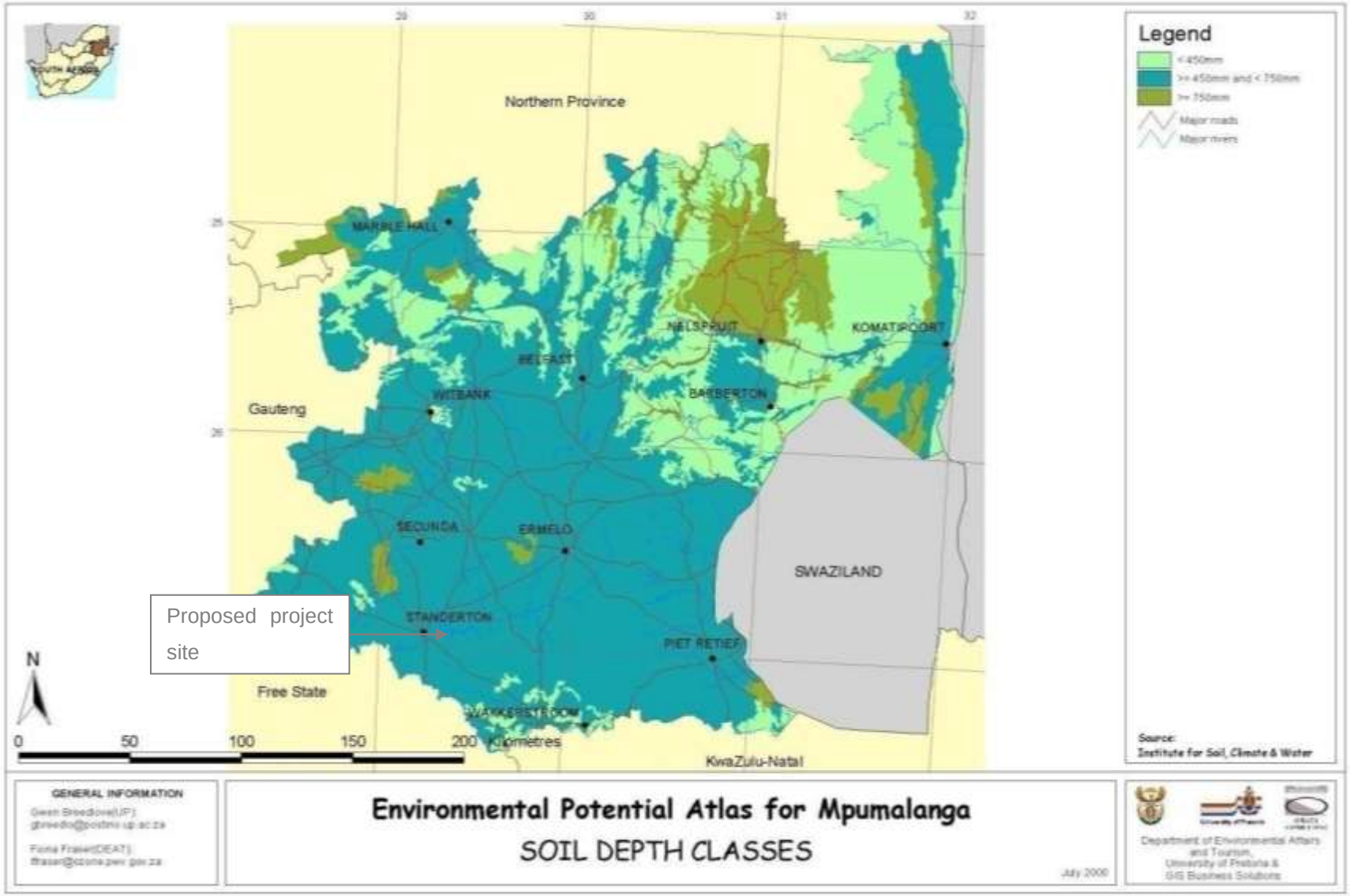


Figure 42: Soil depth in Mpumalanga.

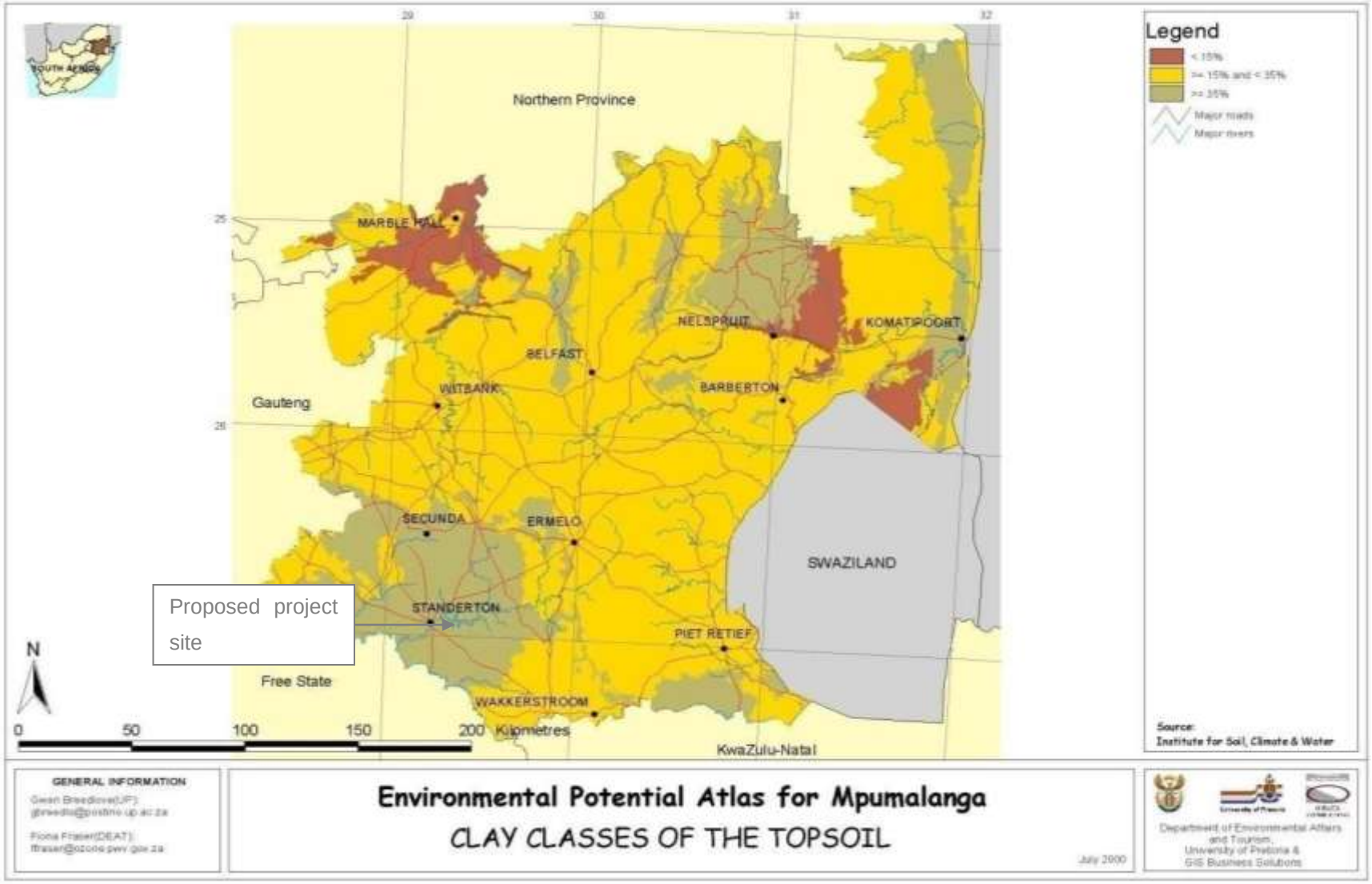


Figure 43: Clay classes of the topsoil in Mpumalanga.

2.1.5 Land use and land capability

The footprint of the site currently comprises of eight poultry broiler houses, residential buildings, internal road infrastructure, open spaces between the houses and a bio-security buffer area around all broiler houses.

Figure 44: Current infrastructure.

Langspruit Boerdery forms part of the Agricultural industry. The current land use is therefore considered in compliance with the existing approved Lekwa Local Municipality Spatial Development Framework (SDF) (existing agriculture with a high soil potential). The approval of the proposed expansion will therefore not compromise the integrity of the existing approval and credible municipal IDP and SDF as agreed to by the relevant authorities (Refer to Figure 45).

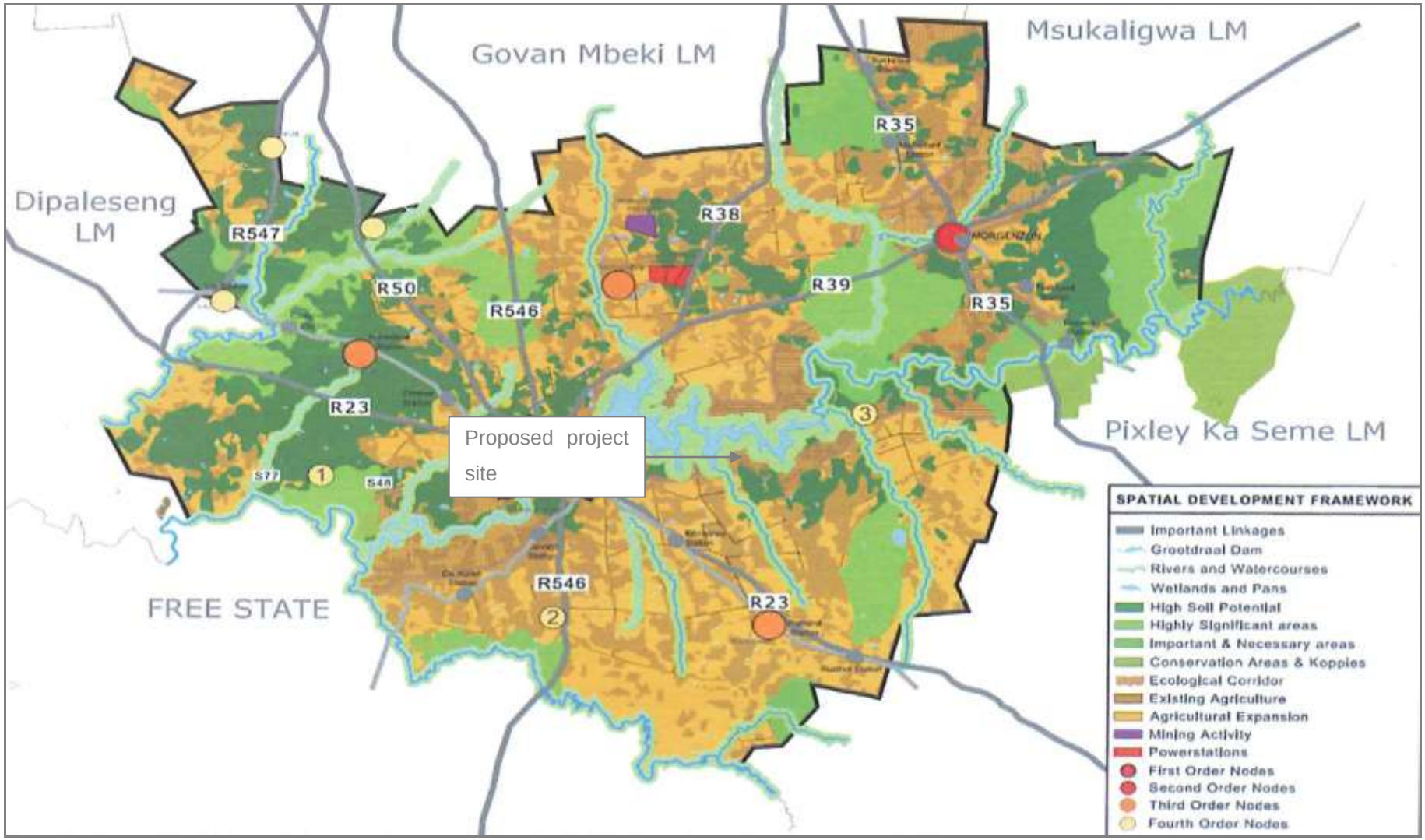


Figure 45: Lekwa Local Municipality' special development concept.

2.1.6 Fauna and Flora

Due to the disturbed nature of the vegetation onsite, a desktop assessment was undertaken to describe the vegetation of the area surrounding the site.

This site falls within the Grass Land biome region and is specifically classified as Soweto Highveld Grassland (Refer to Figure 46).

The Grassland Biome is found mainly on the high central plateau of South Africa and the interior regions of KwaZulu-Natal and the Eastern Cape. Frost, fire and grazing maintain the dominance of grasses and prevent the establishment of trees. Fire is a natural factor caused by lightning and regular burning is essential to maintaining the structure and biodiversity of this biome. Grasslands are unique ecosystems with rich and often highly specialized animal life, both above and below ground. Formerly, native grasslands supported vast herds of ungulates such as blesbok, black wildebeest and springbok. Bird densities range from 50 to 380 birds per 100 ha, and include a wide range of species.

South African grasslands essentially comprise of a simple, single-layered herbaceous community of tussocked (or bunch) grasses. It is not generally known that the majority of plant species in grasslands are non-grassy herbs, most of which are perennial plants with large underground storage structures that can live for several decades. The Grassland Biome has an extremely high biodiversity, second only to the Fynbos Biome. At a 1 000 square metre scale, the average species richness of the Grassland Biome is even higher than those of most Fynbos communities, being surpassed only by Renosterveld.

Soweto Highveld grasslands usually occur at between 1 420 and 1 760 metres above sea level on undulating areas of the Highveld plateau. The tufted grasses are dense and short to medium-high in length. *Themeda triandra* almost completely dominates the grasslands and occurs with a number of other grass species such as *Eragrostis racemosa, Tristachya leucothrix, Elionurus muticus* and *Heteropogon contortus*.

The natural grasslands are classified as endangered and are poorly conserved at present (Mucina & Rutherford, 2006). However, the proposed development sites cannot be classified as native Soweto Highveld grassland as a result of its disturbed state and as the sites are characterised by the monocrop “Weeping love grass also known as Oulandsgras”. For this reason, the impact of the proposed development on natural vegetation can be regarded as low.

Important taxa within the Soweto Highveld grasslands are the following:

Table 3: Dominant vegetation within the Soweto Highveld Grassland.

Taxa	Species
Graminoids:	*Paspalum dilatatum, Harpochloa falx, Cymbopogon pospischilii, Cynodon dactylon, Eragrostis capensis, E. curvula, E. chloromelas, E. planiculmis, E. plana, E. racemosa, Heteropogon contortus, Hyparrhenia hirta, Setaria nigrirostris, S. sphacelata, Themeda triandra, Microchloa caffra, Tristachya leucothrix, Andropogon schirensis, Aristida adscensionis, A. bipartita, A. congesta, A. junciformis,* subsp. *galpinii, Cymbopogon caesius, Digitaria diagonalis, Andropogon appendiculatus, Elionurus muticus, Brachiaria serrata, Diheteropogon amplectens, Eragrostis micrantha,* and *E. superb.*
Herbs:	*Vernonia oligocephala, Geigeria aspera* var. *aspera, Hermannia depressa, Euryops gilfillanii, Dicoma anomala, Acalypha angustata, Rhynchosia effusa, Wahlenbergia undulata, Selago densiflora, Berkheya setifera, Hibiscus pusillus, Lippia scaberrima, Schistostephium crataegifolium, Senecio coronatus, Justicia anagalloides, Graderia subintegra, Helichrysum miconiifolium, H. rugulosum, H. nudifolium* var. *nudifolium* and *Haplocarpha scaposa.*
Geophytic Herbs:	*Heamanthus montanus* and *H. humilis* subsp. *hirsutus.*
Herbaceous Climber:	*Rhynchosia totta.*
Low Shrubs:	*Ziziphus zeyheriana, Anthospermum rigidum* subsp. *pumilum, A. hispidulum, Felicia muricata* and *Berkheya annectens.*

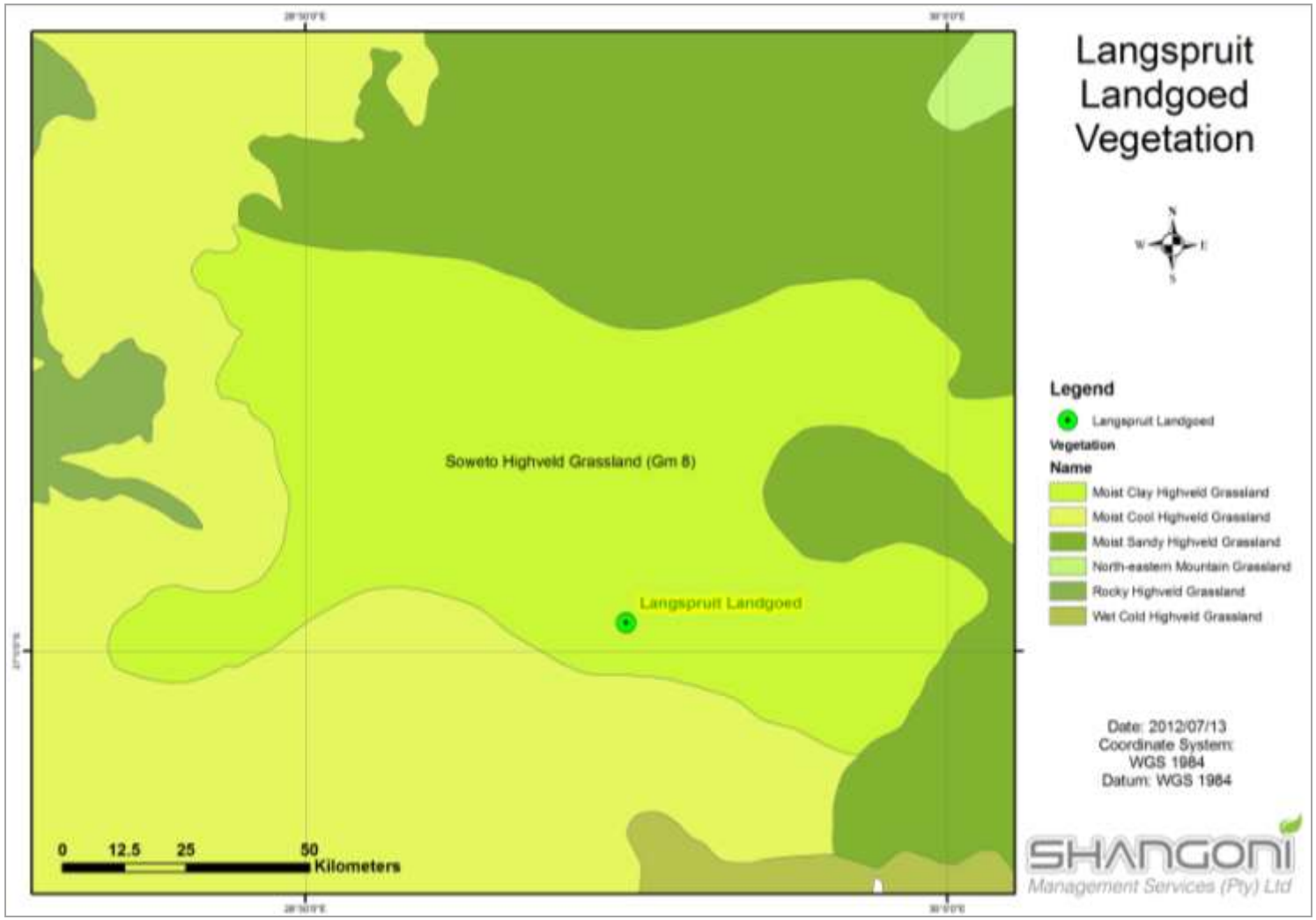


Figure 46: Vegetation map.

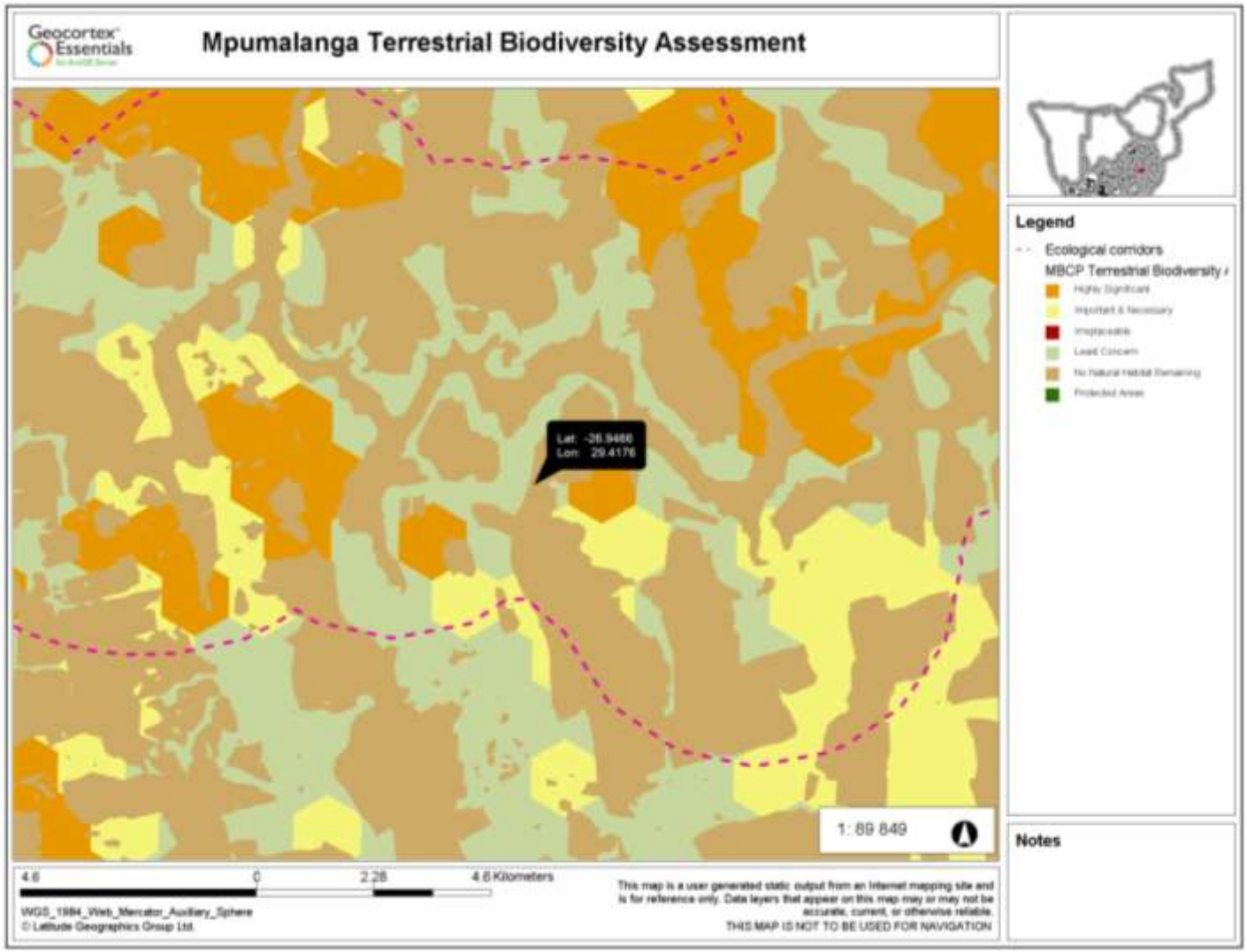


Figure 47: Mpumalanga Terrestrial Biodiversity Assessment.

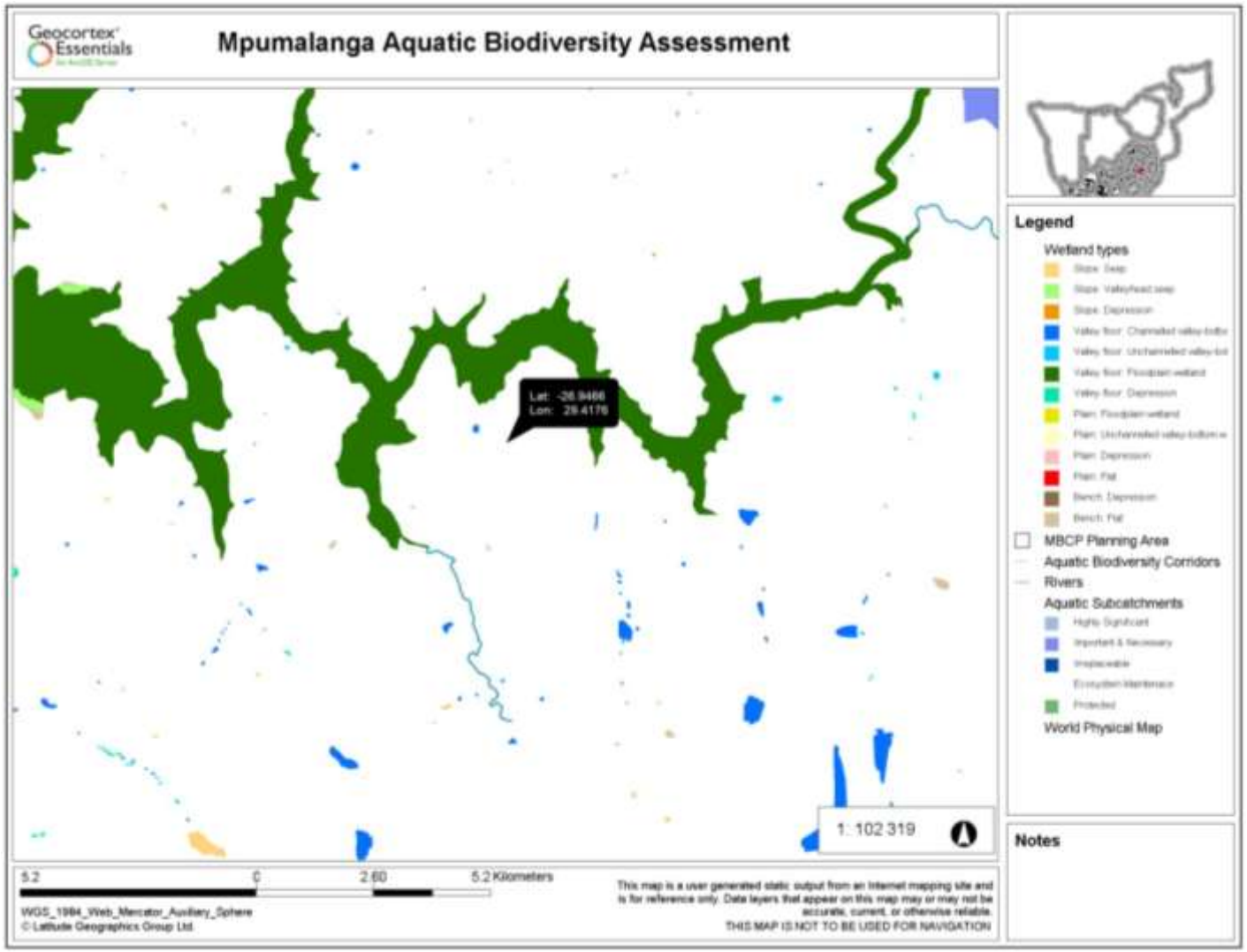


Figure 48: Mpumalanga Aquatic Biodiversity Assessment.

2.1.7 Surface water

The site area falls within the Vaal River catchment in the upper reaches of the Vaal River (Upper Vaal Water Management Area or WMA), as shown in Figure 49 and Figure 50. The catchment covers an area of 192 000km² and the mean annual runoff for this area of the Vaal River catchment is approximately 1 100 million m^3/annum. The soil profile of the Upper Vaal WMA has an undulating relief and the soil depth is moderate to deep.

The site area falls within the Vaal River catchment in the upper reaches of the Vaal River (Upper Vaal Water Management Area or WMA). Table 1 (Surface water abstraction and storage volumes) 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 the maximum volume of surface water that may be abstracted from this property is 2000m^3 a year at a maximum rate of 1l/s. Table 1 of GN 288 also states that a maximum storage of 2 000m^3 of water may occur on this property. Refer to Section 1.5.1 for the water use licensing requirements of the project.

2.1.7 Groundwater

The property falls within the C11L quaternary drainage region. 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 75m^3 water may be abstracted per hectare per year in the C11L quaternary drainage region. Refer to Section 1.5.1 for the water use licensing requirements of the project.

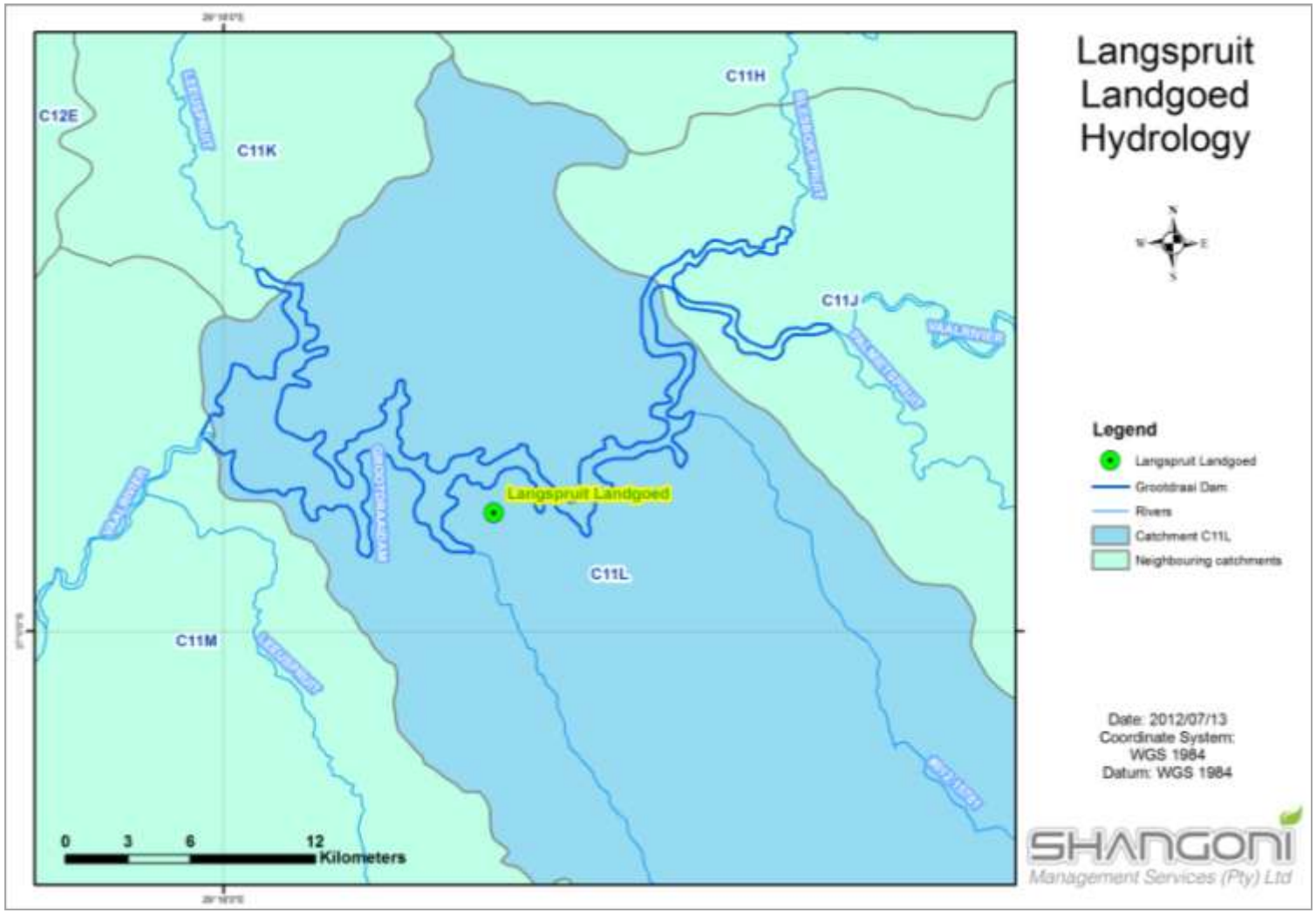


Figure 49: The Vaal River catchment (C11L quaternary catchment).

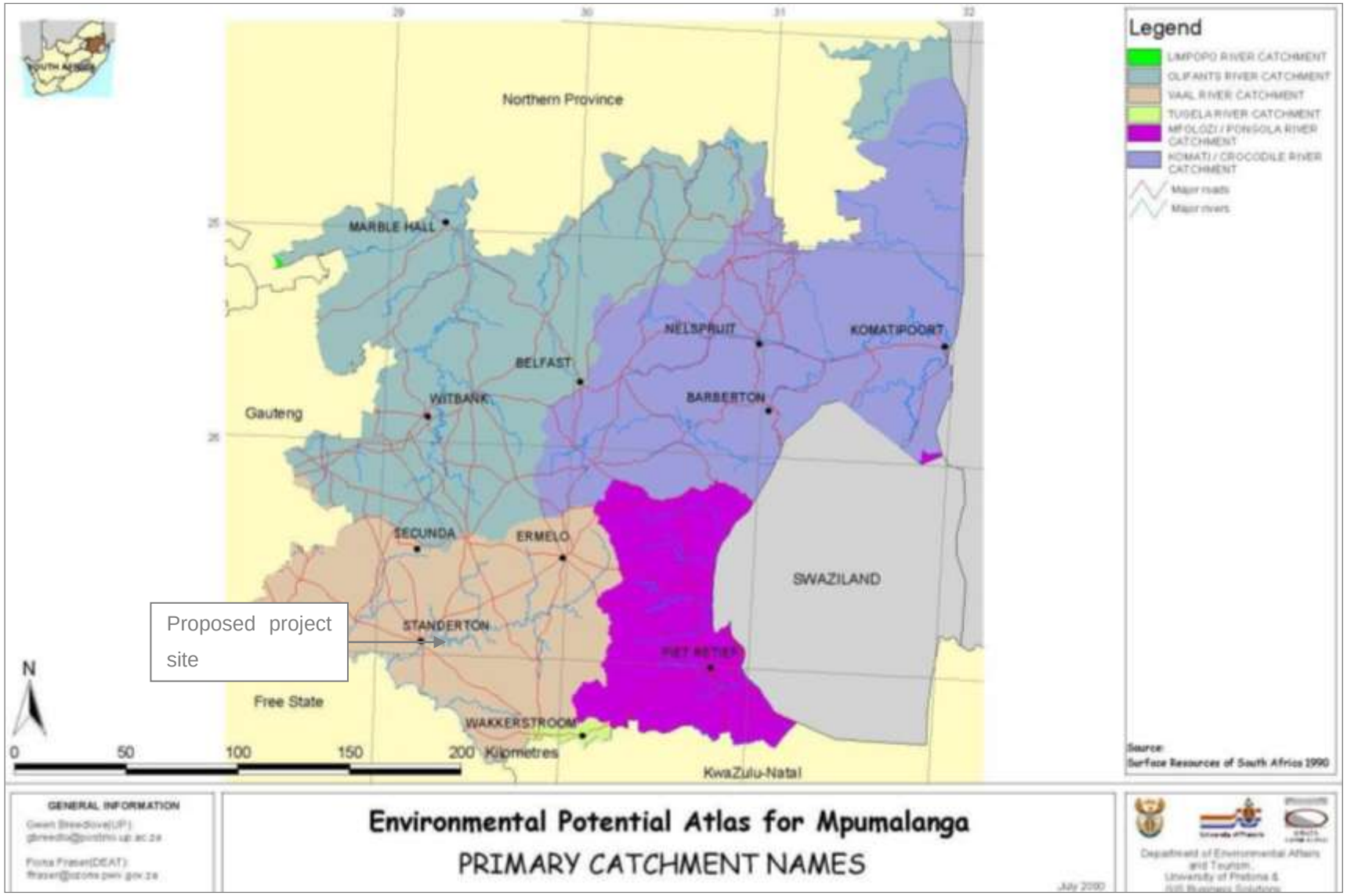


Figure 50: Primary catchments in Mpumalanga.

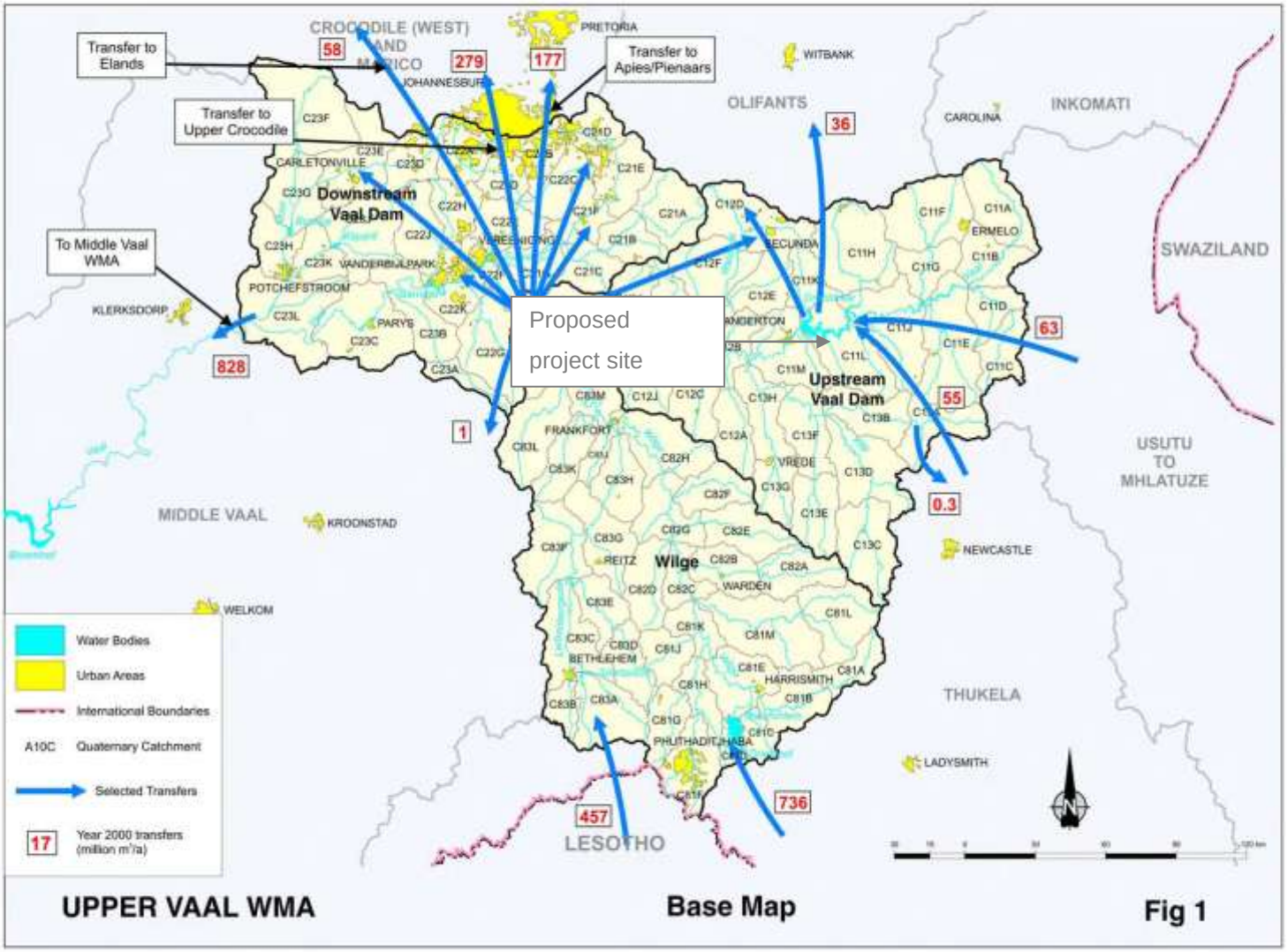


Figure 51: Upper Vaal Water Management Area (Basson, & Rossouw, 2003).

2.1.8 Water Authority

The relevant Water Authority is the Mpumalanga regional office of the Department of Water Affairs (DWA).

2.1.9 Noise

Noise on and around the proposed site is generated by general farming activities, limited vehicle movement, broiler raising activities and limited residential activities.

According to Jorgensen & Johnson (1981), the noise levels generated by general construction activities on a building site can reach levels of approximately 70 dB, caused by for instance heavy machinery. It can therefore be assumed that the proposed development will have a negative impact on the environmental noise of the area once construction starts.

Sound is inversely proportional to the distance from the source and can get absorbed by buildings and vegetation barriers. Noise intensity (dB) will be at its highest on site and will decrease as you move away from the source.

The decline curve below (Refer to Figure 52) gives an indication of how noise generated at the site will decrease with distance. This gives a clear indication of the distance that the sound would have travelled upon reaching a level of 60 dB, prescribed by the SABS as being the acceptable limit for environmental noise.

According to Figure 52, at a distance of 27 metres from the construction site, generated noise would have decreased to a level of 60 dB and at a distance of 45 metres it would have decreased to approximately 55dB. It can therefore be said that noise travelling further than 45 metres will have a low impact on neighbouring farms and residential areas.

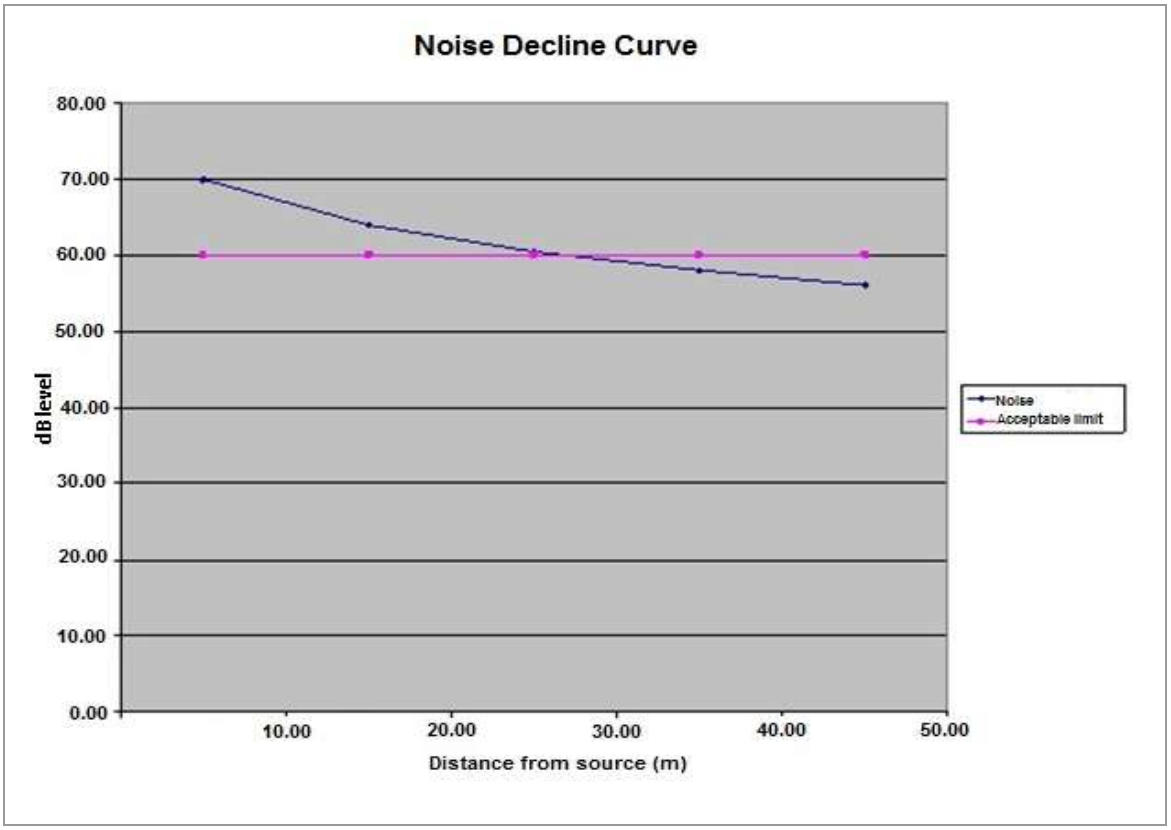


Figure 52: Noise decline curve.

2.1.10 Sites of archaeological and cultural interest

A site walk-through of the proposed development was undertaken. The objective of the study was to identify possible archaeological, cultural and historic sites within the proposed development areas.

No obvious features, sites, graves or artefacts of cultural significance that could be impacted upon by the proposed development were found.

2.1.11 Visual aspects

The site is secluded and lies approximately 11km north-east of the closest main road (R23). The proposed broiler facility expansion will therefore not have a significant visual impact on the surrounding environment.

2.1.12 Air Quality

South Africa has limited financial and technological resources as well as air quality specialists to ensure efficient and effective air quality improvements. The risk thus exists that these resources wouldl be stretched beyond their capacity if they were required to simultaneously manage the

air quality throughout the country. By establishing priority areas, these resources can be focused on recognised areas of concern.

The Highveld was declared as a priority area on 23 November 2007, and is now referred to as the Highveld Priority Area in terms of section 18(1) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). This means that the ambient air quality in this area currently exceeds or may in future exceed the ambient air quality standards and that the area requires a specific air quality management plan (Gert Sibande, 2009). The Air Quality Management Plan aims to put systems and methods in place to systematically deal with the Air quality issues.

The Highveld Priority Area includes five of the seven local municipalities in the district, namely the Govan Mbeki-, Dipaleseng-, Pixley ka Seme-, Msukaligwa-, and Lekwa local municipality (Gert Sibande, 2009).

Construction Phase

The proposed expansion will have a short-term and low, negative impact on the air quality of the property as a result of excavation activities that will take place during the construction phase of the project. However, with the correct mitigation measures introduced the dust can be controlled by means of suppression techniques such as the watering of cleared areas and the introduction of speed limits for construction vehicles operating onsite.

Operational Phase

Manure refers to the combination of faeces and urine (uric acid) excreted by poultry. Ammonia is produced as a by-product of the microbial decomposition of the organic nitrogen compounds in manure. Nitrogen occurs as both unabsorbed nutrients in animal faeces and as either urea (mammals) or uric acid (poultry) in urine.

The formation of ammonia in faeces is slower, but will continue with the microbial breakdown of manure under both aerobic and anaerobic conditions. The potential for ammonia emissions exists wherever manure is present and ammonia will be emitted from confinement buildings, open lots, stockpiles, anaerobic lagoons, and land application from both wet and dry handling systems.

Emissions will depend on how much of the ammonia-nitrogen in solution reacts to form ammonia versus ionized ammonium (NH_4^+), which is non-volatile.

The volatilization of ammonia from any manure management operation can be highly variable depending on the following:

- total ammonia concentration,
- temperature: high temperature favours higher concentrations of ammonia and thus greater ammonia emissions.
- pH: high pH favours higher concentrations of ammonia and thus greater ammonia emissions.
- storage time.

Maintaining good litter conditions is important in minimizing and preventing atmospheric ammonia emissions and the social impact due to nuisance caused by odours generated by the litter.

2.2 Socio-economic aspects

The site is located within the Lekwa local municipality. This local municipality forms part of the Mpumalanga province and falls under the jurisdiction of the Gert Sibande District Municipality.

2.2.1 Demography

According to the 2008 figures, there were 117 833 people and 32 241 households in the Lekwa Local Municipality. The average household had 3.5 persons per household, slightly lower than that of the Mpumalanga Province as a whole, at 4.3 persons per household. The table below indicates the population statistics for the Lekwa Local Municipal Area as in 2008 (KV3 Engineers, 2009).

Table 4: Lekwa Local Municipality population statistics.

Population Group	Figures
Black African	101 304
Coloured	1 961
Indian or Asian	1 149
White	13 419
Total Population	**117 833**

Approximately 51% of the population was female. In terms of age, Lekwa Local Municipality had a relatively young population, with 40% of the population between the ages of 0 and 20 years, 59% below the age of 30, 26% between 30 and 50 years of age and 11% older than 50 (KV3 Engineers, 2009).

Table 5: Distribution of Population by Gender in Lekwa Local Municipality (Lekwa Local Municipality – IDP, 2007/2011)

Statistical baseline	Male	Female
2001	50 629	52 636
2007 (Projection)	54 679	56 846
Ward 13	5 970	5 754
Ward 13 (2007-Projection)	6 447	6 214

Table 6: Population Distribution per Ward 13 in Lekwa Local Municipality

	Date	Ward 13	Total Population
Population	Population (2001)	11 726	103 265
	2007 Projection	12 664	111 526
African	African (2001)	10 993	89 054
	2007 Projection	11 872	96 176
Coloured	Coloured (2001)	30	1 936
	2007 Projection	32	2 091
Indian	Indian (2001)	0	951
	2007 Projection		1 027
White	White (2001)	699	11 351
	2007 Projection	755	12 258

2.2.2 Major economic activities

The Lekwa Local Municipality is relatively industrialised and has a large number of sectors that have been established in the Municipal area. These sectors include the mining of coal and the lignite sector that is the main sector in the Lekwa Municipality (KV3 Engineers, 2009).

Other sectors include textiles, engineering, animal feed producers, dairy producers, mining, hunting, farming and grain mills, community services, electricity, gas, trade, steam and hot water supply. The agricultural activities in Lekwa also include sheep, chicken and cattle farming and the cultivation of sorghum, mushrooms, maize, sunflower and flowers (KV3 Engineers, 2009).

The land use within the Municipaliy is almost entirely dominated by agriculture (Refer to Table 8). Many of the grasslands in the Municipal area are used for the rearing of dairy cattle. In the last 15 years the poultry sector has developed substancially and there are approximately 50 poultry broiler farms in the Lekwa municipal area.

Table 7: Gert Sibande State of HDI, Gini Coefficient and Poverty Rates. (Pixley Ka Seme Local Municipality – dIDP, June 2009).

	Human Development Index		
	1996	**2001**	**2007**
Lekwa Local Municipality	0.53	0.55	0.55
Gert Sibande District Municipality	0.50	0.53	0.54
Mpumalanga	0.49	0.52	0.53
National	0.56	0.59	0.60
	Gini Coefficient		
	1996	**2001**	**2007**
Lekwa Local Municipality	0.57	0.62	0.65
Gert Sibande	0.61	0.67	0.68
Mpumalanga	0.61	0.66	0.68
National	0.62	0.66	0.67
	% People Living in Poverty		
	1996	**2001**	**2007**
Lekwa Local Municipality	37.5%	48.8%	48.0%
Gert Sibande	47.8%	53.4%	48.8%
Mpumalanga	50.4%	56.0%	51.2%
National	40.8%	48.1%	42.8%

Table 8: Population Distribution per Ward in Lekwa Local Municipality.

	Ward 13	**Total of all wards**
Agricultural related work	2022	7 695
Mining Quarrying	3	1 171
Manufacturing	32	2 468
Electricity, gas and water	0	1 131
Construction	18	1 184
Wholesale and retail	121	3 206
Transport and Communication	35	637
Business service	28	1 029
Community Service	62	3 622
Private households	437	3 361
Undetermined	96	1 078
Extra territorial organization	0	0
Rep. Foreign Government	0	0

2.2.3 Unemployment and employment

Unemployment remains one of the serious socio economic challenges throughout South Africa. High rates of unemployment have direct links with other social issues and problems such as poverty, inequality, social instability and crime.

According to Global Insight SA's estimates, 22% of the economically active population in the Lekwa Municipality is unemployed and it was expected that the remaining percentage would be employed, but almost 55% of the population is economically inactive. With 35% of the population being financially responsible for the other 65% of the population, the dependency- and unemployment-rates are very high in the Municipality.

Approximately 64% of people in the Lekwa Local Municipaity who were economically active, i.e. between 15 and 65 years of age. Of this group, approximately 40% of people were employed while approximately 60% were unemployed.

30.87% of the employed population works in the community services sector as specified by the census. Thereafter, 25.07% of the employed population works in the trade industry, followed by 12.55% in agriculture. The construction, electricity and transport sectors are the smallest sectors in terms of the number of people employed.

11% of households in Lekwa Municipality have earnings of less than R1 100 per month. In the Gert Sibande District Municipality, households earning less than R1 100 per month are classified as poor households (KV3 Engineers, 2009).

Recent analysis has indicated that the unemployment rate has increased for the Mpumalanga province as a whole. The comparison between 1998 and 2005 rates shows that unemployment has increased from approximately 18.3% in 1998 (Statistics South Africa, 1998) to 23.4% in 2005 (KV3 Engineers, 2009).

Table 9: Population Distribution per Ward in Lekwa Local Municipality.

Ward	Employed	Unemployed	Not Economically Active
13	2 853	1 217	2 533
Total	26 591	15 286	24 240

Table 10: Industrial Economic Sectors and employment within Lekwa Municipality (Lekwa Local Municipality – IDP, 2007/2011).

Sector	Number employed	% of total
Agricultural related work	7 838	28.2%
Mining, Quarrying	1 170	4.2%
Private households	4 332	15.6%
Manufacturing	2 481	9%
Community services	4 725	17%
Electricity, gas and water	1 133	4%
Construction	1 188	4.3%
Business service	1 035	3.7%
Wholesale and retail	3 239	11.7%
Transport & communication	638	2.3%
Total	27 779	100%

3. LEGISLATION AND GUIDELINES APPLICABLE

3.1 Laws of general application

- Constitution of the RSA, 1996 (Act No 108 of 1996)
- National Environmental Management Act, 1998 (Act No 107 of 1998)
- Environment Conservation Act, 1989 (Act No 73 of 1989 as amended)
- Promotion of Access to Information Act, 2000 (Act No 2 of 2000 as amended)

3.2 Atmospheric emissions

- National Environmental Management: Air Quality Act (Act No 39 of 2004)
- Environment Conservation Act, 1989 (Act No 73 of 1989) – Noise Control
- Regulations in terms of Section 25 of the Environment Conservation Act, 1989

3.3 Water Management

- National Water Act, 1998 (Act No 36 of 1998)

3.4 Waste management

- National Environmental Management: Waste Act (Act No 59 of 2008)

3.5 Planning of new activities

- National Environmental Management Act, 1998 (Act No 107 of 1998)

3.6 Land and Soil Management

- National Environmental Management Act, 1998 (Act No 107 of 1998)
- Environmental Conservation Act, 1989 (Act No 73 of 1989)

3.7 Heritage resources

- National Heritage Resources Act No 25 of 1999 (Act No 25 of 1999 as amended)

During the course of the development, the developer and contractors must comply with all other relevant legislation (including the bylaws of the Local Municipality).

4. PUBLIC PARTICIPATION PROCESS

4.1 Introduction

A Public Participation Process (PPP) is a requirement in terms of the 2010 EIA Regulations of the National Environmental Management Act,1998 (Act No. 107 of 1998) and it forms an integral part of any EIA process.

This section provides information pertaining to the PPP that was conducted by Shangoni Management Services during this particular assessment.

The purpose of this process is to gather information from the community and relevant Stakeholders that could ultimately affect the decision-making process concerning the Planning, Construction and Operational Phases of the proposed Langspruit Boerdery Broiler Facilities expansion project. The community and public have been identified as I&APs and have been given the opportunity to participate in this process. Their comments, whether positive or negative, can influence the decision of the Authorities and the developer's final actions.

4.2 Objectives of the PPP

The PPP has the following objectives:

- To inform I&APs as well as all Stakeholders of the proposed development;
- To provide an opportunity for I&APs and Stakeholders to raise environmental issues or concerns and make suggestions;
- To promote transparency and an understanding of the project and its consequences;
- To serve as a structure for liaison and communication with I&APs and Stakeholders.

To summarise, the objective of the on-going PPP is to promote candour and transparency concerning the proposed broiler facility expansion for the duration of the project. The process should by no means be regarded as a vehicle to temper opposition or objections. Any conclusions agreed upon must be socially, financially and technically acceptable and feasible in order to meet the requirements of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998).

4.3 The Guidelines Followed for the PPP

The PPP for this project was conducted by Shangoni Management Services and undertaken strictly according to the guidelines in terms of the National Environmental Management Act (NEMA), No. 107 of 1998, Chapter 6:

4.4 Public Participation Process

54. (1) This regulation only applies in instances where adherence to the provisions of this regulation is specifically required.

(2) The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by-

(a) fixing a notice board at a place conspicuous to the public at the boundary or on the fence of -
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to -
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  (v) the municipality which has jurisdiction in the area;
  (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  (vii) any other party as required by the competent authority;

(c) placing an advertisement in –
  (i) one local newspaper; or
  (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph needs not be complied with if an advertisement has been placed in an official *Gazette* referred to in sub regulation (c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to
(i) illiteracy;
(ii) disability;
(iii) or any other disadvantage.

(3) A notice, notice board or advertisement referred to in sub regulation (2) must

(a) give details of the application which is subjected to public participation; and

(b) state-

(i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;

(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;

(iii) the nature and location of the activity to which the application relates;

(iv) where further information on the application or activity can be obtained; and

(vi) the manner in which and the person to whom representations in respect of the application may be made.

(4) A notice board referred to in sub regulation (2) must-

(a) be of a size at least 60cm by 42cm; and

(b) display the required information in lettering and in a format as may be determined by the competent authority.

(5) Where deviation from sub regulation (2) may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub regulation to the extent and in the manner as may be agreed to by the competent authority.

(6) Where a basic assessment report, scoping report or environmental impact assessment report as contemplated in regulations 22, 28 and 31 respectively is amended because it has been rejected or because of a request for additional information by the competent authority, and such amended report contains new information, the amended basic assessment report, scoping report or environmental impact assessment report must be subjected to the processes contemplated in regulations 21, 27 and 31, as the case may be, on the understanding that the application form need not be resubmitted.

(7) When complying with this regulation, the person conducting the public participation process must ensure that-

(a) information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and

(b) participation by potential interested and affected parties is facilitated in such a manner that all potential interested and affected parties are provided with a reasonable opportunity to comment on the application.

(8) Unless justified by exceptional circumstances, as agreed to by the competent authority, the applicant and EAP managing the environmental assessment process must refrain from conducting any public participation process during the period of 15 December to 2 January.

Register of interested and affected parties

55.(1) An EAP managing an application must open and maintain a register which contains the names, contact details and addresses of -

(a) all persons who, as a consequence of the public participation process conducted in respect of that application in terms of regulation 54, have submitted written comments or attended meetings with the applicant or EAP;

(b) all persons who, after completion of the public participation process referred to in paragraph (a), have requested the applicant or the EAP managing the application, in writing, for their names to be placed on the register; and

(c) all organs of state which have jurisdiction in respect of the *activity* to which the application relates.

(2) An EAP managing an application must give access to the register to any person who submits a request for access to the register in writing.

Registered interested and affected parties entitled to comment on submissions

56.(1) A registered interested and affected party is entitled to comment, in writing, on all written submissions, including draft reports made to the competent authority by the applicant or the EAP managing an application, and to bring to the attention of the competent authority any issues which that party believes may be of significance to the consideration of the application, provided that-

(a) comments are submitted within-

(i) the timeframes that have been approved or set by the competent authority; or

(ii) any extension of a timeframe agreed to by the applicant or EAP;

(b) a copy of comments submitted directly to the competent authority is served on the EAP; and

(c) the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.

(2) Before the EAP managing an application for environmental authorisation submits a final report compiled in terms of these Regulations to the competent authority, the EAP must give registered interested and affected parties access to, and an opportunity to comment on the report in writing.

(3) The report referred to in sub regulation (2) include-

(a) basic assessment reports;
(b basic assessment reports amended and resubmitted in terms of regulation 24 (4);
(c) scoping reports;
(d) scoping reports amended and resubmitted in terms of regulation 30(3);
(e) specialist reports and reports on specialised processes compiled in terms of regulation 32;
(f) environmental impact assessment reports submitted in terms of regulation 31;
(g) environmental impact assessment reports amended and resubmitted in terms of regulation 34(4); and
(h) draft environmental management programmes compiled in terms of regulation 33.

(4) The draft versions of reports referred to in sub regulation (3) must be submitted to the competent authority prior to awarding registered interested and affected parties an opportunity to comment.

(5) Registered interested and affected parties must submit comments on draft reports contemplated in sub regulation (4) to the EAP, who should record it in accordance with regulations 21, 28 or 31.

(6) Registered interested and affected parties must submit comments on final reports contemplated in sub regulation (3) to the competent authority and provide a copy of such comments to the applicant or EAP.

(7) The competent authority must, in order to give effect to section 24O of the Act, on receipt of the draft reports contemplated in sub regulation (5), request any State department that administers a law relating to a matter affecting the environment to comment within 40 days.

(8) The timeframe of 40 days as contemplated in sub regulation (7) must be read as 60 days in the case of waste management activities as contemplated in the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), on which the Department of Water Affairs must concur and issue a record of decision in terms of section 49(2) of the National Environmental Management: Waste Management Act, 2008 (Act No. 59 of 2008).

(9)(a)When a State department is requested by the competent authority to comment, such State department must, within 40 days or in the case of Department of Water Affairs, 60 days for waste management activities, of being requested to comment by the competent authority, provide comments to the competent authority.

(b)If a State department fails to submit comments within 40, or 60 days for waste management activities, from the date on which the Minister, MEC, Minister of Mineral Resources or identified competent authority requests such State department in writing to submit comment, it will be regarded that there are no comments.

Comments of interested and affected parties to be recorded in reports submitted to competent authority

57. (1) The EAP managing an application for environmental authorisation must ensure that the comments of interested and affected parties are recorded in reports and that such written comments, including records of meetings, are attached to the report, submitted to the competent authority in terms of these Regulations.

(2) Where a person is desiring but unable to access written comments as contemplated in sub regulation (1) due to-

(i) a lack of skills to read or write;

(ii) disability; or

(iii) any other disadvantage,

reasonable alternative methods of recording comments must be provided for.

4.5 Public Participation Process Followed

The following PPP was conducted for the proposed Langspruit Boerdery Broiler Facilities expansion project:

- Identification of key Interested and Affected Parties (all adjacent landowners);
- Identification of key Stakeholders;
- Informing the key Stakeholders of the process by means of correspondence;
- Placement of a press notice in the Standerton Advertiser, informing the public of the process;
- Placement of site notices at the site; and
- Correspondence with I&APs and Stakeholders and the addressing of their comments.

4.5.1 Identification & Registration of I&APs on a Database

Through networking and advertising, I&APs were registered on a database. Shangoni ensured that individuals or organisations from an institutional as well as a geographical point of view were identified.

Geographically, Shangoni focused on nearby or adjacent landowners, communities and structures that represents them. Institutionally, the focus was on those organisations or individuals that may influence policies and decisions or make a contribution to the project. Not all of these organisations were necessarily in the direct project sphere of impact.

4.5.2 Notification of key stakeholders and IAPs

Stakeholders are all the relevant Authorities and land owners that may possibly be affected by the proposed broiler facility expansion. The following stakeholders were identified:

Table 11: Stakeholders identified during the PPP.

Name	Organisation/Farm	Postal Address	Contact details
Ms. Nelisiwe Sithole	Mpumalanga Department of Agriculture, Rural Development and Land Administration	Private Bag X11219 Nelspruit 1200	Tel: 013 766 6067/6068 Email: sitholenl@mpg.gov.za
Mr. David Mahlobo	Mpumalanga Department of Co-operative Governance and Traditional Affairs	Private Bag X11304 Nelspruit 1200	Tel:013 766 6087/6675 Cell:082 338 9881 Fax: 013 766 8441/2 Email: MahloboD@mpg.gov.za
Mr ST Sibiya / Mr. Isaiah Khoza	Mpumalanga Department of Safety, Security and Liaison	Private Bag X11269 Nelspruit 1200	Tel: 013 766 4600 Fax: 013 766 8422 Email: phiwe@mpg.gov.za
Ms. Sibongile Nkosi	Mpumalanga Department of Culture, Sport and Recreation	PO Box 1243 Nelspruit 1200	Tel: 013 766 5242 Fax: 013 766 5612 Email: nkosist@mpg.gov.za
Ms. Mahlasedi Mhlabane	Mpumalanga Department of Education	Private Bag X11341 Nelspruit 1200	Tel: 013 766 5000 Email: p.moosa@education.mpu.gov.za Fax: 013 766 5577
Mr. J. Mbatha	Mpumalanga Department of Finance	Private Bag X11205 Nelspruit	Tel: 013 766 4229 Cell: 082 331 4533

		1200	Fax: 013 766 4604 Email: echego@mpg.gov.za
Mr M.R Mnisi/ Dr. Johnson Jerry Mahlangu	Mpumalanga Department of Health and Social Development	Private Bag X11285 Nelspruit 1200	Tel: 013 766 3429/30/28 Fax: 013 766 3458 Email: florencekh@social.mpu.gov.za
Mr. David Dube	Mpumalanga Department of Human Settlements	Private Bag X11328 Nelspruit 1200	Tel: 013 766 6233 Fax: 013 766 8430 Email: APohl@mpg.gov.za
Mr. Kgopana Mathew Mohlasedi	Mpumalanga Department of Public Works, Roads and Transport	Private Bag X11310 Nelspruit 1200	Tel: 013 766 6978/9 Fax: 013 766 8449 Email: kmohlasedi@mpg.gov.za
Mr.Guma / Mr. M. Mahunonyane	Department of Water Affairs, Mpumalanga Regional Office	Private Bag X11259 Nelspruit 1200	Tel: 013 759 7310 Fax: 013 759 7525 Email: guma@dwa.gov.za
Fikile Mnisi	Department of Water Affairs	Private Bag X11259 Nelspruit 1200	Fax: 086 600 9287 Email: mnisif@dwa.gov.za
Mr. Phillip Hine	South African Heritage Resources Agency (SAHRA)	PO Box 4637 Cape Town 8000	Tel:021 462 4502 Fax: 021 462 4509 Email: phine@sahra.org.za
Mr. Tendo Ramagoma	National Heritage Council (NHC)	PO Box 74097 Lynnwood Ridge Pretoria	Tel:013 932 2061 Fax:086 212 1220 Email: P.Ramagoma@nhc.org.za

		0040	
Mr. T.D. Hlanyane	Gert Sibande District Municipality	PO Box 1748, Ermelo, 2350	Tel: 017 801 7000 Cell: 082 696 0046 Email: dan.hlanyane@gsibande.gov.za
Mr. N.L. Maimela	Lekwa Local Municipality	PO Box 66, Standerton, 2430	Fax: 017 712 6808
Cllr. Ntombi Z.E. Sithoni	Lekwa Local Municipality – Ward 13	PO Box 66, Standerton, 2430	Cell: 079 495 7701

Shangoni sent registered letters to the Departments and Organs of State containing a background information document (BID), map showing the location of the site, and a stakeholder registration form. All surrounding properties are owned by the applicant so no adjacent land owners require notification. Figure 53 provides an example of the letters sent out to Departments, Organs of State and potential I&APs. Figures 54 and 55 provide proof that notification letters were sent to Departments, Organs of state and potential I&APs.

The table below provides a list of the I&APs who registered and were added to the database of I&APs during the PPP.

Table 12: Registered I&APs.

Name	Farm/Association	Postal Address	Contact details
L.B. Tshabalala	Lekwa Local Municipality	P.O. Box 66 Standerton 2430	Tel: 017 712 9600 Fax: 017 712 6808

SHANGONI
Management Services (Pty) Ltd

Tel +27(0)12 807 7036 Fax +27(0)12 807 1014
E-mail info@shangoni.co.za www.shangoni.co.za
Block C8, Block@Nature 472 Botterklapper Street The Willows 0081
PO Box 74726 Lynnwood Ridge 0040

16 August 2012

EIA Ref. Nr.: 17/2/3 GS-125; SMS Ref. LAN-LAN-12-05-17

Lekwa Local Municipality
PO Box 66
Standerton
2430

Attention: Mr. Seppie Claassen

APPLICATION FOR ENVIRONMENTAL AUTHORISATION: EXPANSION OF THE LANGSPRUIT BOERDERY BROILER FACILITIES ON PORTION 48 OF THE FARM DIEPSPRUIT 414 IS, MPUMALANGA

Langspruit Landgoed (Pty) Ltd has initiated a Basic Assessment Process to obtain Environmental Authorisation from the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) for the proposed expansion of the Langspruit Boerdery Broiler Facilities on Portion 48 of the farm Diepspruit 414 IS, Mpumalanga.

The proposed broiler expansion project will require environmental authorisation subject to a Basic Assessment Process as required by Sections 21 to 25 of Government Notice R 543 of the EIA Regulations of 18 June 2010.

Shangoni Management Services (Pty) Ltd. was appointed as the Independent Environmental Assessment Practitioner (EAP) responsible for the Basic Assessment Procedure.

Attached please find a background information document, map of the site and a stakeholder registration form in respect of the application. Should you wish to register as an I&AP and/or inform us of any other I&APs and/or organisation and/or organ of state who should be notified, please contact Lizette Crous before the expiry date on 4 October 2012.

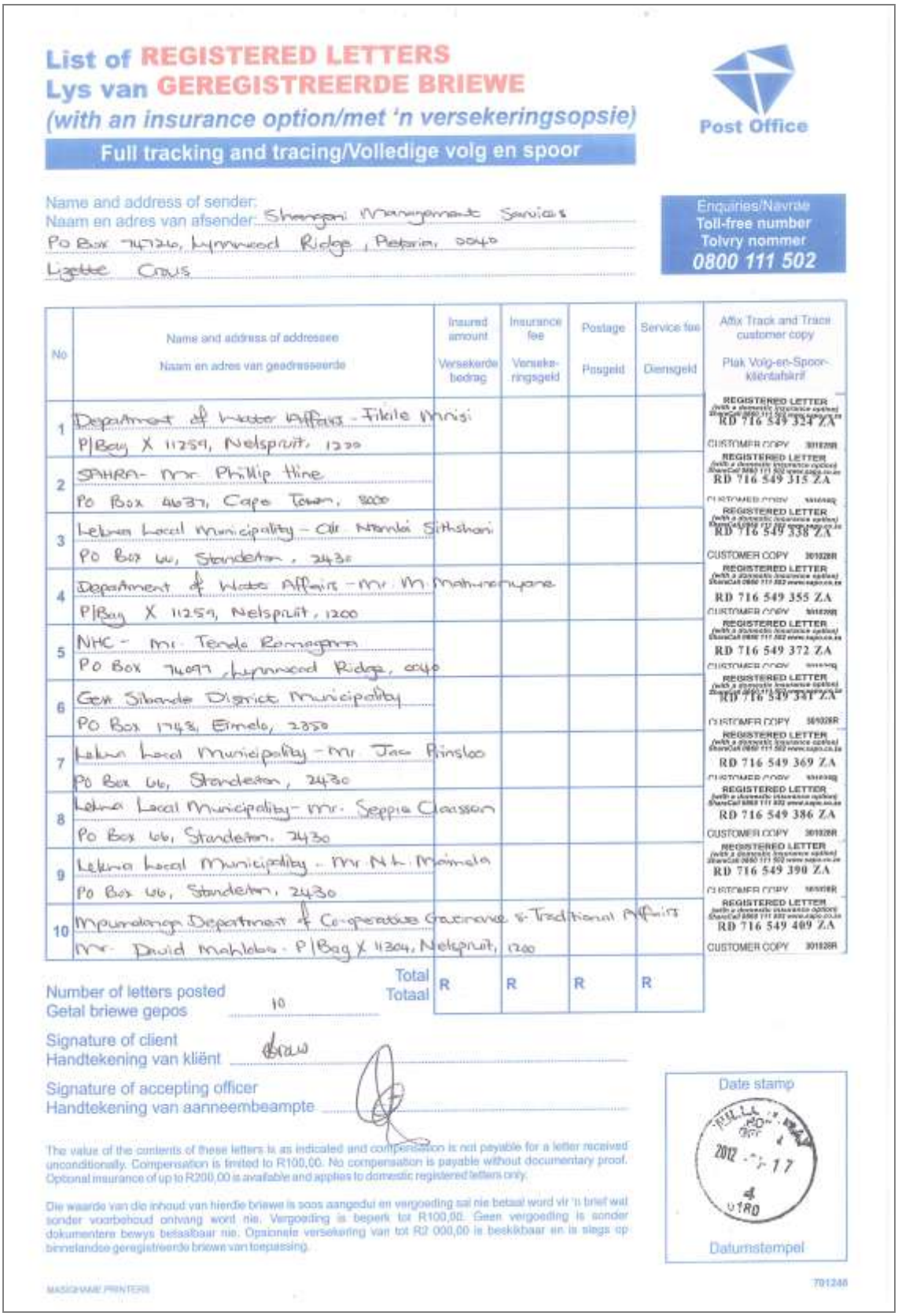
Please do not hesitate to contact the undersigned should you require any additional information.

Contact Details: Shangoni Management Services
Miss Lizette Crous: E-mail: lizette@shangoni.co.za; Cell: 071 673 3355; Fax 2 E-mail: 086 643 5360; Fax: 012 807 1014.

Regards,

Lizette Crous
Environmental Assessment Practitioner

Figure 53: Example of a notification letter to stakeholders.



List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender:
Naam en adres van afsender: Shangoni Management Services
Po Box 74726, Lynnwood Ridge, Pretoria, 0040
Lizette Cruis

Enquiries/Navrae
Toll-free number
Tolvry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntafskrif
1	Department of Water Affairs - Fikile Mnisi P/Bag X 11259, Nelspruit, 1200					REGISTERED LETTER RD 716 549 324 ZA CUSTOMER COPY
2	SAHRA - Mr Phillip Hine PO Box 4637, Cape Town, 8000					REGISTERED LETTER RD 716 549 315 ZA
3	Lekwa Local Municipality - Cllr Ntombi Sithshani PO Box 66, Standerton, 2430					REGISTERED LETTER RD 716 549 338 ZA CUSTOMER COPY
4	Department of Water Affairs - Mr M Mathunyane P/Bag X 11259, Nelspruit, 1200					REGISTERED LETTER RD 716 549 355 ZA CUSTOMER COPY
5	NHC - Mr Tendo Remegrom PO Box 74699, Lynnwood Ridge, 0040					REGISTERED LETTER RD 716 549 372 ZA
6	Gert Sibande District Municipality PO Box 1743, Ermelo, 2350					REGISTERED LETTER RD 716 549 341 ZA CUSTOMER COPY
7	Lekwa Local Municipality - Mr Jan Rijnsloo PO Box 66, Standerton, 2430					REGISTERED LETTER RD 716 549 369 ZA
8	Lekwa Local Municipality - Mr. Seppie Claassen PO Box 66, Standerton, 2430					REGISTERED LETTER RD 716 549 386 ZA CUSTOMER COPY
9	Lekwa Local Municipality - Mr N.H. Maimela PO Box 66, Standerton, 2430					REGISTERED LETTER RD 716 549 390 ZA
10	Mpumalanga Department of Co-operative Governance & Traditional Affairs Mr. David Mahlaba - P/Bag X 1304, Nelspruit, 1200					REGISTERED LETTER RD 716 549 409 ZA CUSTOMER COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos: 10

Signature of client / Handtekening van kliënt:

Signature of accepting officer / Handtekening van aanneembeampte:

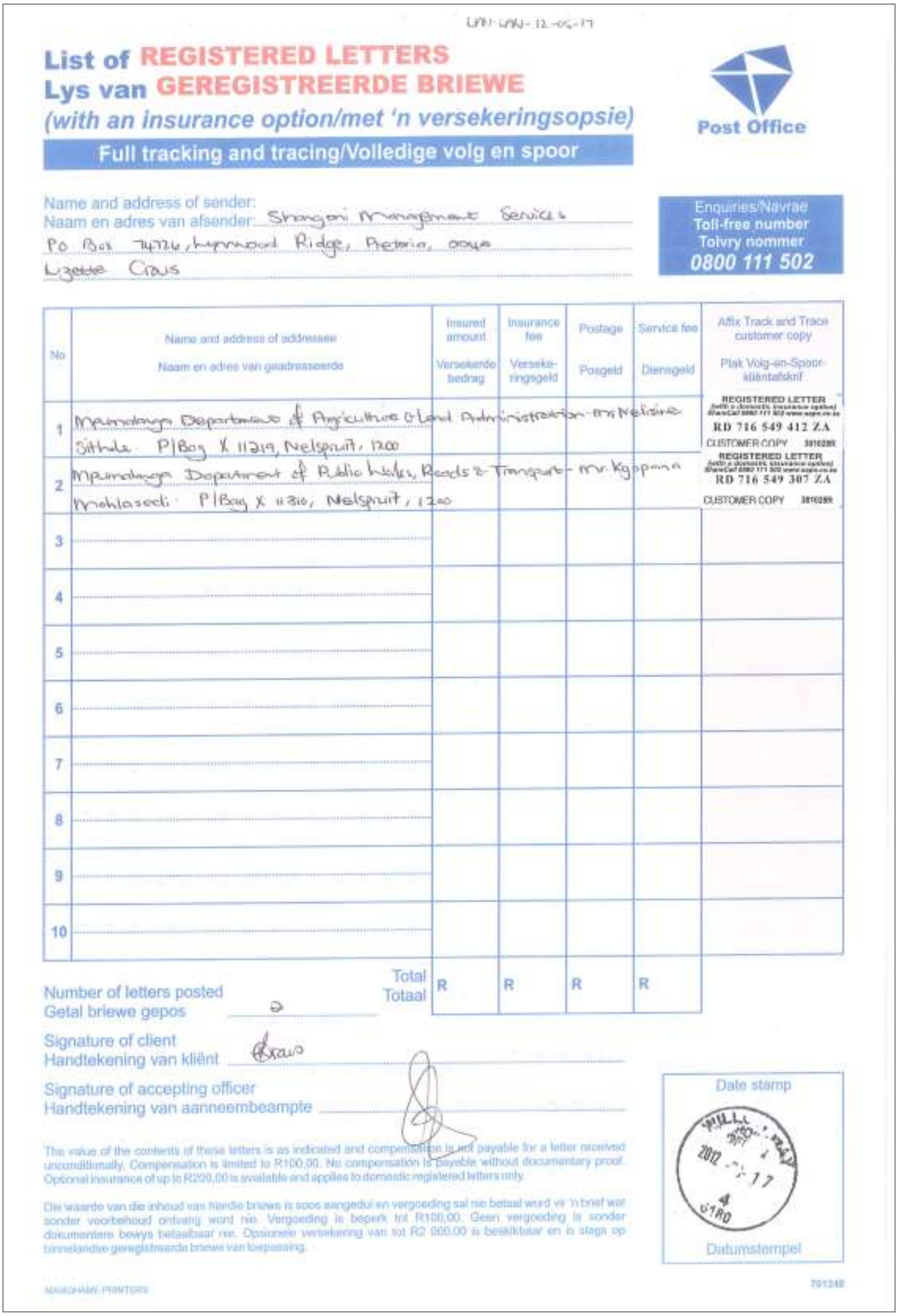
Date stamp
2012 17
4
UTRD
Datumstempel

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R200,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentere bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

MASIGHANE PRINTERS 701248

Figure 54: Proof of registered letters sent (pg 1).


LAN-LAN-12-06-17

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)
Full tracking and tracing/Volledige volg en spoor

Post Office

Name and address of sender: / Naam en adres van afsender: Shangoni Management Services
PO Box 74726, Lynnwood Ridge, Pretoria, 0040
Lizette Craus

Enquiries/Navrae
Toll-free number / Tolvry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntafskrif
1	Mpumalanga Department of Agriculture & Land Administration - ms Nelisiwe Sithole P/Bag X 11219, Nelspruit, 1200					REGISTERED LETTER RD 716 549 412 ZA CUSTOMER COPY
2	Mpumalanga Department of Public Works, Roads & Transport - mr. Kgopana Mohlasedi P/Bag X 11310, Nelspruit, 1200					REGISTERED LETTER RD 716 549 307 ZA CUSTOMER COPY
3						
4						
5						
6						
7						
8						
9						
10						
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos: 2

Signature of client / Handtekening van kliënt: Craus

Signature of accepting officer / Handtekening van aanneembeampte

Date stamp / Datumstempel: 2012 -06- 17

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

791348

Figure 55: Proof of registered letters sent (pg 2).

4.5.3 Comments and Response Report

Comments and concerns received from I&APs were incorporated into a Comments and Responses Report, which is given below and in Appendix E.

Table 13: Comments and response report.

Raised by:	Date	Issue/ Comment/ Concern	Response
L.B. Tshabalala Lekwa Local Mumicipality	06/09/2012	1. Your letter dated 2012-08-16 received regarding the above said application refers. 2. Please be advised that the Lekwa local Municipality has received your application for the above said development. 3. The Lekwa Municipality require that you comply with all the necessary legislation regarding, pollution, emissions, water use and any other affected environmental issues that might be triggered by your activities. 4. Council will further support any comments or requirements lodged by and not limited to the Department of Water Affairs and Forestry (DWAF), Department of Co-operative Governance and Traditional Affairs Mpumalanga (COGTA) and the Department of Agricultural, Rural Development and land Administration. 5. Included hereto please find the completed Stakeholder Registration Form for your attention. 6. Thank you.	Your letter dated 29 August 2012 refers: We hereby confirm receipt of your stakeholder registration form and that you have been added to the Register of Interested and Affected Parties for the above mentioned project. We further confirm receipt of your comments. They will be included in the Basic Impact Assessment reports for this project. Thank you for your inputs.

4.5.4 Registering Stakeholders

All key stakeholders were registered and will receive this draft Basic Assessment Report.

4.5.5 Press Notices

In accordance with the National Environmental Management Act (NEMA) 1998, (Act No. 107 of 1998), a notice was placed in the Standerton Advertisement, on the 17th of August 2012. The press notice is shown in the figure below.

Press notices are crucial to create awareness of the project and to reach a broader range of I&APs.

LANGSPRUIT LANDGOED (PTY) LTD

PUBLIC NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION

Notice is hereby given that an application for environmental authorisation in terms of the EIA Regulations of 2010 (Regulations in terms of Chapter 5 of the National Environmental Management Act of 1998, as amended) has been lodged with the Mpumalanga Department of Economic Development, Environment and Tourism.

Legislation:

The activity requires an application subject to a Basic Impact Assessment Process as required by Sections 21 to 25 of Government Notice R. 543 of the EIA Regulations.

Listing Notice 1, R. 544 of 18 June 2010, Activity No. 32:

The expansion of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by:

(ii) more than 5 000 poultry per facility situated outside an urban area.

Activity Description:

- The construction of an additional eight (8) poultry broiler houses.
- Each house will be capable of housing 26 000 chickens and will have a surface area of 1 800m² (120m 15m).
- The expansion will add 208 000 chickens to the current production capacity of the farm.
- The development footprint of the new houses will be approximately 5.3ha.

Applicant: Langspruit Landgoed (Pty) Ltd.

Project Name: Expansion of the Langspruit Boerdery Broiler Facilities.

Location: Portion 48 of the farm Diepspruit 414 IS.

Reference number: 17/2/3 GS-125

Environmental Consultants:

Shangoni Management Services (Pty) Ltd

PO Box 74726	Tel: (012) 807 7036
Lynnwood Ridge	Fax: (012) 807 1014 / 086 643 5360
Pretoria	Mobile: +27 71 673 3355
0040	E-mail: lizette@shangoni.co.za

Invitation to Participate:

Should you require any additional information or wish to register as I&AP and/or inform us of any other I&APs and/or organisation and/or organ of state who should be notified, please submit your name, contact information, and interest in the matter in writing to the above address not later than **17 September 2012.**

Figure 56: Wording of site notice (English).

LANGSPRUIT LANDGOED (PTY) LTD

PUBLIEKE KENNISGEWING TER AANSOEK VIR OMGEWINGSMAGTIGING

Belanghebbende en Geaffekteerde partye word hiermee in kennis gestel dat 'n aansoek vir omgewingsmagtiging ingevolge die Omgewings Impak Studie Regulasies van 18 Junie 2010, in terme van Hoofstuk 5 van die Nasionale Omgewings Bestuur Wet van 1998, soos gewysig, ingedien is by die Mpumalanga Departement van Ekonomiese Ontwikkeling, Omgewing en Toerisme.

Wetgewing:

Die aktiwiteite vereis dat 'n Basiese Omgewingsimpakstudie proses gevolg word soos vereis deur Artikel 21 tot 25 van Staats Kennisgewing R. 543 van die Omgewings Impak Studie regulasies.

Kennisgewingsnommer 1, R. 544 van 18 Junie 2010, Aktiwiteit Nr. 32:

Die uitbreiding van fasiliteite vir die konsentrasie van pluimvee, uitsluitend kuikens jonger as 20 dae, waar die kapasiteit van die fasiliteit verhoog sal word met:

(ii) meer as 5 000 pluimvee per fasiliteit geleë buite 'n stedelike gebied.

Beskrywing van aktiwiteit:

- Die konstruksie van agt (8) addisionele braaikuiken produksie huise.
- Elke huis sal 26 000 hoenders kan huisves en sal 'n oppervlakarea van 1 800m^2 (120m x 15m) hê.
- Die uitbreiding sal die huidige produksie kapasiteit van die plaas met 208 000 hoenders vermeder.
- Die ontwikkelingsgebied van die nuwe huise sal ongeveer 5.3ha wees.

Applikant: Langspruit Landgoed (Pty) Ltd.

Projek naam: Uitbreiding van die Langspruit Boerdery braaikuiken fasiliteite.

Ligging: Gedeelte 48 van die plaas Diepspruit 414 IS.

Verwysingsnommer: 17/2/3 GS-125

Omgewingskonsultante: Shangoni Management Services (Pty) Ltd.

Shangoni Management Services (Pty) Ltd

PO Box 74726	Tel: (012) 807 7036
Lynnwood Ridge	Faks: (012) 807 1014 / 086 643 5360
Pretoria	Sel: +27 71 673 3355
0040	E-pos: lizette@shangoni.co.za

Publieke Deelmane Uitnodiging:

Vir enige navrae, of indien u as belanghebbende en/of geaffekteerde party wil registreer of ons wil inlig van enige ander partye en/of organisasie en/of staatsinstelling wat in kennis gestel moet word, kan u gerus vir Lizette Crous kontak by die bogenoemde kontakbesonderhede, nie later as **17 September 2012** nie.

SHANGONI Management Services (Pty) Ltd

Figure 57: Wording of site notice (Afrikaans).

Standerton Advertiser - Classifieds 17 August 2012

STANDERTON Advertiser CLASSIFIEDS

Tel: 017 712 2204
E-mail: classifieds@stadvertiser.co.za

MISTAKES & QUERIES
All mistakes and queries must be received in writing within 1 week of placement and accompanied by a reference number. Only mistakes that change the effectiveness of the advert (contact info or price) will be credited or republished. (no credit for spelling) LB003230

0200 HOME IMPROVEMENTS

0205 Builders & Contractors

A & A ALERT WENDY`S
2x2=R3 550. 2x3=R3 700. 3x3=R4 000. 3x4=R4 700. 3x6=R8 000. The sooner you order the sooner we deliver. The wendy made from treated pallet wood with 10 years guarantee. The wendy comes with 1 door, wooden floor, zinc roof & 1 window with glass. Jerry 078 397 5045. LB003302

AABCD WENDYS:
2x2=R3 500. 2,4x2,4=R3 600. 3x3=R4 000. 3x4=R4 700. 3x6=R8 000. Made from quality pallet wood. Including door, window with glass. Treated for water proofing and termites. 10 years guarantee in case of leaks. Knotty pine and log cabin also available. Call Joc 073 283 5945. LB003315

ABA WENDIES:
Special price in Standerton, including delivery. 3x3m @ R4 000. 3x4m @ R4 700. Include: 1 door, 1 window with a glass, zinc roof, wooden floor and its treated. Call Marius 073 133 1452. LB003328

ARE YOU SAFE?
For Spanish bars, 10-12mm twisted bar, burglarproof, security- & sliding gates, and any odd jobs. Call Mac 083 363 9044. LB003179

HOME PLANS:
Building plans / bouplanne. Jeff: 084 505 4762. 21A Mulder Street, Meyerville. LB003319

HOUSE PAINTING;
waterproof; roof repairs; repainting of roofs, 1 year guarantee. Insurance claims welcome. Chris Pienaar, 072 837 7050. 28 Years experience. LB003271

PATRICK KOMELLO:
For all your tiling work. Call 079 613 4857. LB003264

0300 SERVICES

0303 Beauty & Health

ANNIQUE ROOIBOS
verkrygbaar by Irma 083 278 6773 of Louise 071 671 0385. LB003233

BIO SCULPTURE GEL:
Leading nail care. Removable gel. Visit your authorised Bio Sculpture Salon today. Enroll for certified Bio Sculpture education. Call Thelma 017 712 2706 / 082 789 6086. LB003290

0321 Cleaning

HIDRO KLEEN:
Skoonmaak van matte, los matte, blinders, sitstelle & diepreiniging van huise. Masterguard-agent. Gratis kwotasies. Tel: 017 712 2499 / Nicolene, 084 299 3654. LB003258

0327 Curtaining & Blinds

BELLA BLINDS:
Fancy a facelift? For all your inside & outside window requirements. 072 390 7490 / 017 714 1262 / 086 615 9985. bella_blinds @hotmail.com LB003218

0333 Driving Schools

ABC DRIVING SCHOOL:
Fazy Centre, 18 Krogh Street. Call: 017 712 5093 / 082 939 6136. LB003278

0336 Entertainment / Party Planning

MARKIESTENTE
te huur. wit 6m x 10m @ R600 per dag. Tel: Sonja 082 956 0291. LB003260

SPRINGKASTELE:
'n Verskeidenheid kastele beskikbaar. Skakel Patricia, 017 712 4140 of 082 820 6200. LB003145

0339 Financial / Loans

BLACKLISTED CLIENTS WELCOME
From R1 000 up to R100 000 same day approval. Contact Marry-Jane at 076 403 6406. LB003295

0342 For Hire

KIA VRAGMOTOR
/trailer + drywer/mense om trekke, bou & tuinvulfis te verwyder. Afsaag / verwydering van bome. 083 378 8972 / 079 513 0706. LB003282

SLEEPWAENS TE HUUR / TRAILERS FOR HIRE
Tel: 082 553 3245 / 082 377 9536 LB003288

VERVOER VAN
maubels, vullisverwydering en bome sny. Skakel Michael 082 874 2286. LB003279

0348 General Repairs

NAALDWERK:
Vir diens en herstel van naaldwerk- en omkapmasjiene en die slyp van skêre. Pieter Geel, Smutsstr 11A, Meyerville, Standerton. 017 712 2706 / 082 789 6086. LB003294

0366 Pest Control

WILLIE`S PEST SOLUTIONS:
Plaagbeheer, knikkerotte, miere, rotte, pesbeheer, termiete & fondasiebehandeling, ens. Registrasie P33234. Willie 083 458 7564. LB003280

0369 Pet Services / Accommodation

ANIMAL BOARDING:
Available at reasonable rates. Phone the SPCA at 017 632 2654 LB003234

0391 TV & Video Repairs

TELETRONICS:
Repairs to TVs, DVDs, hi-fi`s, washing machines, fridges, etc. Multichoice agent & accredited satellite installer. 12 Dr Beyers Naudé St, 017 712 2313 or 017 712 2440. LB003236

0400 FOR SALE

0406 General

ANTRASIET
te koop. Skakel Daan Grobler, 082 490 3756. LB003149

KRAALMIS BESKIKBAAR
@ R25.00 vir 50kg sakke. Skakel 076 989 5230. LB003332

TROUROK TE KOOP:
Wit trourok te koop. Grootte: Nommer 36. Skakel 082 575 0003. LB003316

0700 MOTORING

0740 Used Cars

EK KOOP
byna alle 2de handse motors, dak kappies, bakkies, ventures & condor vir kontant. Ek is bereid om op te tel. Skakel Yunus 062 959 9120 / Aflan 072 203 1614 / 017 687 0191. LB003251

1997 ISUZU KB280LE
D/C te koop R65 000. Skakel Francois 083 410 9756. LB003312

0745 Vehicle Maintenance / Services

STANDERTON BRAKE & CLUTCH:
New and reconditioned clutch kits. Reconditioning of truck & tractor pressure plates. New brake drums & discs or yours machined. Brake fitment. Cnr Princess & Coligny St. Tel: 017 712 6491. LB003262

0800 VACANCIES

0802 Vacancies

SALES ENGINEER:
Well established group of companies is seeking to appoint an individual who will be based in Secunda, Mpumalanga. The successful candidate should be in possession of a Chemical Engineering Diploma/Degree or relevant Sales Engineering experience in the Petro-chemical or Power generation industry, preferably with experience in the selling of filters and/or filtration products into the Petro-chemical & Power Generation markets. Some of the KPA`s will include: • Maintain existing client base • Develop new business • Respond to technical & commercial queries • Do technical presentations and report information on key market developments & competitor activities • Utilise an analytical approach in certain situations. Please e-mail your CV to mail @enserve.co.za If you have not heard from us within 3 weeks, kindly consider your application as unsuccessful. LB003330

VACANCY:
Paint & Hardware business is looking for a freelance external sales rep to procure and maintain new customers in Standerton. Hours of work - freelance. Salary - commission-based (very high earning potential). E-mail CV (include contact details) to: jmehardware @gmail.com LB003316

VAKATURE:
Ons benodig `n bemarker met eie vervoer vir Standerton en omliggende area. Skakel 017 712 1651. LB003311

0824 Employment Wanted

WORK WANTED:
Liesbeth seeks part/full time work cleans, iron, trustworthy loyal refs available. Call 083 276 6539. LB003330

TENDER & NOTICE

Gert Sibande District Municipality

REQUEST FOR QUOTATIONS

Project No. GSDM 01/2012

Provide Overalls and Shirts for Gert Sibande District Municipality

Bidders should note that the GSDM Supply Chain Management Policy will be adhered to in the selection of awarding the bid.

Note that this is a request for a quotation only, and does not constitute any agreement to purchase any of the above-mentioned items.

Purpose area: The main output of this project is the provision of overalls and t-shirts that will facilitate the implementation of the Phezukomkhono Programme.

General profile: Phezukomkhono Programme

Total number of overalls: 700 with printing and logo and t-shirts 700 with our logo (it could be 100, per our Local Municipality)

Bidders are requested to provide the following information regarding their companies and the costs: • Name of provider • Telephone number • E-mail address • Client Fees including VAT.

Enquiries may be directed to Mr Thulani Ndlovu at (017) 801-7001/7062.

Bidders should ensure that quotations are delivered timeously to the correct address. Late quotations will not be accepted for consideration.

The following documentation must accompany quotations, in compliance with the above-mentioned procurement policy: • Declaration of interest • Company profile • A valid BBBEE Status Level Verification Certificate • Valid Tax Clearance Certificates.

Kindly submit quotations electronically to thulanin@gertsibande.gov.za or by facsimile at 017 611 1157 by no later than 17 August 2012 on or before 12:00

The GSDM reserves the right not to accept the lowest or any quotation received.

Mr DV Ngcobo – Acting Municipal Manager

"A District Municipality striving to excel in good governance and quality infrastructure"

Human Communications 08212

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION

Notice is hereby given that an application for environmental authorisation in terms of the EIA Regulations of 2010 (Regulations in terms of Chapter 5 of the National Environmental Management Act of 1998, as amended) has been lodged with the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET).
The activity required an application subject to a Basic Assessment Process as required by Sections 21 to 25 of Government Notice R.543 of the EIA Regulations.

Ref. Number: 17/3/3 /GS-135.

Applicant: Langspruit Landgoed (Pty) Ltd.

Project Name: Expansion of the Langspruit Boerdery Broiler Facilities

Project Location: Portion 48 of the farm Diepspruit 414 IS, Mpumalanga. The project site is located approximately 16.8km to the east of Standerton.

Project Description: The proposed expansion project will entail the following:
- The construction of an additional eight (8) poultry broiler houses.
- Each house will be capable of housing 26 000 chickens and will have a surface area of 1 800 m2 (120m x 15m).
- The expansion will add 208 000 chickens to the current production capacity of the farm.
- The development footprint of the new houses will be approximately 5.3 ha.

Activities applied for: EIA Regulations Listings Notice 1 of 2010 (R544), Activity No. 32:
The expansion of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by: (ii) more than 5 000 poultry per facility situated outside an urban area.

Invitation to participate: Should you wish to be included in the register of interested and Affected Parties, please submit your name, contact information, and interest in the matter in writing to the below address not later than 17 September 2012.

Independent Environmental Assessment Practitioner:
Shangoni Management Services (Pty) Ltd.
PO Box 74726, Lynnwood Ridge, Pretoria 0040.
Contact Person: Miss. L. Crous.

Tel: (012) 807 7036, Cell: 071 673 3355, Fax: (012) 807 1014, Fax to E-mail: 086 643 5360,
E-mail: lizette@shangoni.co.za. For Online Participation go to www.shangoni.co.za and click on Public Documents.

SHANGONI Management Services (Pty) Ltd

Figure 58: Proof of newspaper advertisement.

4.5.6 Placement of Public Notices

The site notices (A2) were placed on the perimeter fence surrounding the Langspruit Boerdery Broiler Facilities (as shown in the figures below).

Figure 59: Photograph of site notice (1).

Figure 60: Photograph of site notice (2).

Figure 61: Photograph of site notice (3).

4.5.7 Issuing I&APs and Stakeholders with a Draft BAR

This draft Basic Assessment Report will be sent to all Departments and Organs of State as well as all registered I&APs in order to obtain their comments and notices. The report will also be submitted to the Mpumalanga Department of Economic Development, Environment and Tourism for review.

4.5.8 Conclusions of the Public Participation Exercise

In conclusion, the Public Participation exercise has provided adequate information to enable an understanding of what the proposed broiler facility expansion project would entail and also to address the concerns and comments of this Basic Assessment.

5. NEED AND DESIRABILITY FOR THE ACTIVITY

While the concept of need and desirability relates to the type of development being proposed, essentially, the concept of need and desirability can be explained in terms of the general meaning of its two components, where need refers to time and desirability to place – i.e. is this the right time and is it the right place for the type of land-use or activity being proposed? Need

and desirability can be equated to wise use of land – i.e. the question of what is the most sustainable use of land (DEA&DP, 2010).

A need and desirability for this project is evident from the following perspectives:

5.1 Developer

Current demand for chicken in South Africa is not being met. Langspruit Boerdery plans to expand their broiler facilities in the near future, to meet current demand. The expansion will allow the developer to earn more money through the sale of more chickens to Earlybird Farm.

The proposed project will entail the construction of an additional eight poultry broiler houses. The eight houses will be identical to those houses of the existing broiler facility. The proposed technology, design and process of the project were determined by the applicant to be the most economically, socially and environmentally sustainable option for this specific venture.

Langspruit Boerdery falls within a region zoned as Existing Agriculture and High soil potential (Refer to Figure 45). The land use (rearing of broilers) is thus considered in compliance with the existing approved Spatial Development Framework (SDF).

5.2 Local Community

The proposed project will create 50 employment opportunities for unskilled laborers during the construction phase and approximately 20 permanent employment opportunities during the operational phase of the expanded facility. The creation of jobs will have a positive impact on the local community.

5.3 District and Provincial Benefit

In the last 15 years the poultry sector has developed substantially and there are approximately 50 poultry broiler farms in the Lekwa municipal area.

A considerable amount of contract work is associated with the construction and operation of a broiler facility, thereby creating secondary employment in the broader local economy. Contract work can include:

- Construction companies.
- Delivery of chicks to the farm.
- Broiler house bedding.
- Chicken feed companies.
- Manure and mortality collection.

6. IDENTIFIED ALTERNATIVES

Typically, alternative assessments are conducted to assist in comparing various projects or attributes of projects that will occur. The most critical comparison is evaluating any proposed project against the No-Go option. The alternatives assessment then considers alternatives to project site selection for the proposed development; alternatives to layout of the development; and alternatives to construction methodologies and/or materials used for the development.

The alternatives assessment was conducted using a simple cost-benefit analysis of each proposed alternative, through assessing various environmental attributes. These attributes can include physical (geology and soils, surface water quality and quantity, groundwater quality and quantity); biophysical (flora and fauna, sensitive environments); and social (site of archaeological or cultural importance, land use issues, social health and welfare).

The impact of the each alternative was then evaluated in terms of whether it has a positive, negative, or no impact. In this instance, the impact is not evaluated in terms of significance but rather whether or not it will arise. Positive impacts are assigned a value of 1; no impact a value of 0; and a negative impact a value of -1.

By adding all of the attribute scores for each alternative, a suitability score is derived which indicates the preferred alternative. A total positive score indicates the project benefits outweigh the potential negative impacts, while a total negative score indicates the project's environmental costs outweigh the potential benefits. Essentially, the highest scoring alternative is then carried forward for full impact evaluation.

6.1 No-Go Option

The potential impact of the preferred project option on environmental and socio-economic attributes – identified during the assessment phase – is evaluated against the potential impact of the no-go option on the same attributes. The summary of this assessment is provided in the table below.

Table 14: Development vs. No-Go Option

Attribute	Development Option	No-go Option 2
Physical environment		
Air Pollution	-1	-1
Noise Pollution	0	0
Water Quality	-1	-1
Water Quantity	-1	-1
Visual Aesthetics	0	0
Biophysical environment		
Fauna and Flora	0	0
Sensitive Environments	0	0
Social environment		
Traffic	-1	-1
Impact on property values	1	0
Safety and security	0	0
National and regional economy	1	0
Infrastructure development	0	0
Total	-2	-4

The no-go alternative means that the broiler facility is not expanded and will not benefit from a higher overall production rate and stimulation of the local economy.

The negative environmental impacts expected by the proposed development can be mitigated to acceptable limits. The positive social impacts outweigh the negative impacts and the consideration of the “no-go” option can be justifiably dismissed as a sustainable alternative.

6.1 Construction Alternatives:

6.1.1 Site selection

Firstly, it must be stated that the proposed development aims at utilizing the applied property to its full economic potential, taking the natural as well as socio-economic environment into consideration. Refer to Figure 62 for the proposed site alternatives.

Both sites are dominated by the monocrop “Oulandsgras” and as such no natural vegetation will be disturbed by expanding the broiler facility onto either site. The applicant is considering both sites for the proposed broiler houses.

Developing alternative site 1 would mean that the broiler houses are more concentrated, whereas developing site 2 would make the broiler facility more elongated.

There are different costs associated with the two alternatives. Site 1 would require cutting and infilling during construction while site 2 will require the extension of the internal access road further away from the main access road to the site.

Figure 62: Proposed site alternatives.

6.1.2 Alternative Design

As the proposed activity is the expansion of an existing broiler facility, the expansion will have the same design as the existing facility.

6.1.3 Scheduling Alternatives

It is recommended that construction take place during the drier months to avoid any complications in wet weather. No detailed information regarding the proposed time frame for the project is available yet.

6.2 Operational Alternatives:

6.2.1 Activity Alternatives

No activity alternatives exist as the proposed development is the expansion of an existing facility.

6.2.2 Process Alternatives

Further research and consulting is required to determine which technology, design and process would be the most economically, socially and environmentally sustainable option for the handling, storage and disposal of waste such as mortalities and ash (Refer to Section 7.2 for the environmental impact assessment of waste generated during the operational phase).

6.2.3 Input Alternatives

Due to the fact that the expansion will form part of the controlled environment of the existing broiler facilities, not much variation can be allowed for in terms of the materials that can be used for a development of this nature.

7. ENVIRONMENTAL IMPACT ASSESSMENT

All activities that are related to the proposed expansion of the broiler facility that could have some impact on the environment were identified. These impacts can be of an environmental, socio-economic or cultural nature. Impacts are often not only confined within the direct scope of the proposed activity and can accumulate as a network of indirect impacts on the surrounding area.

Different impacts are associated with the construction and operational phases of the proposed activity. The significance will be determined by both the extent and duration of the impact. The environmental risk of any aspect is determined by a combination of parameters associated with the impact. Each parameter connects the physical characteristics of an impact to a quantifiable value to rate the environmental risk. A description of the parameters used in this impact assessment is listed in the table below.

Table 15: Environmental impact assessment parameters

Parameters	Description
Extent	Refers to the physical or geographical size that is affected by the impact. It can be categorised into the following ranges: • Onsite – Within the specific site boundary (weight value – 1) • Local – Within the municipal boundary (weight value – 2) • Regional – Outside the municipal boundary (weight value – 3)
Duration	Time span associated with impact: • Short term – 1 Year or less (weight value – 1) • Medium term – 1-5 Years (weight value –2) • Long term – Longer than 5 Years (weight value – 3)
Intensity and reversibility	The severity of an impact on the receiving environment: • Low – Natural and/or cultural processes continue in a modified way and is reversible (weight value – 1) • Medium – Natural and/or cultural processes stop and is partially reversible (weight value – 2) • High – Natural and/or cultural processes disturbed to an irreversible state (weight value – 3)
Significance of Impact / Consequence	Adding the extent, duration and intensity together provides the significance of the impact (High, Medium or Low). **Extent + Duration + Intensity = High/Medium/Low Impact**
Probability	The likelihood of an impact occurring: • Unlikely – 0% - 45% chance of the potential impact occurring (weight value – 1) • Possible – 46% - 75% chance of the potential impact occurring (weight value – 2) • Likely - >75% chance of the potential impact occurring (weight value – 3)
Environmental Risk Refer to the table below	Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment. **High/Medium/Low Impact X Probability = High/Medium/Low Environmental Risk**

Table 16: Environmental Risk Matrix

Significance of Impact				
		Low Impact (3 → 5)	Medium Impact (6 → 8)	High Impact (9)
Probability	Definite / Very Likely 3	9 - 15 L - M	18 - 24 M - H	27 H
	Possible 2	6 - 10 L - M	12 – 16 M	18 M - H
	Unlikely 1	3 - 5 L	6 – 8 L	9 L

ENVIRONMENTAL RISK	Guidelines for Control Strategies
(H) - High	Proactively reduce risk level, short term response.
(M- H) Medium to High	Proactively reduce risk level, short term response.
(M) – Medium	Management strategies to reduce risk level, short to medium term response.
(L – M) Low to Medium	Management strategies to reduce risk level, short to medium term response, operational control and housekeeping.
(L) - Low	Operational control and housekeeping.

See the tables below for a summary of impacts, their associative mitigating actions and the significance of the pre- and post- mitigation of each of the identified activities. The tables also provide an environmental risk assessment of pre- and post- mitigation of identified activities. The tables are for Construction- and Operational- phases of the proposed project.

7.1 Construction Phase

Table 17: Environmental risk assessment: Environmental Awareness and Training

Activity: Construction activities required to expand the broiler facilities.	
Aspect: Lack of environmental knowledge among employees.	
Nature of Environmental Impact: Harm to the environment due to employees or contractors being unaware of how their activities may impact the environment or due to unauthorised access to the site.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent harm to the environment through the actions of uneducated employees or contractors.	
Proposed Mitigation	
• The contractor is to ensure that all employees, including sub-contractors and their employees, are required to attend onsite Environmental Awareness/Training prior to commencing work on site. • Follow-up Environmental Awareness/Training may be required from time to time as new subcontractors or crews commence work or for specific activities that may potentially impact the environment. • The contractor is to maintain accurate records of any training undertaken. • The ECO shall monitor the contractor's compliance with the requirement to provide sufficient environmental awareness training to all site staff. • Training is to cover all aspects of the EMP and procedures to be followed.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 18: Environmental risk assessment: Site clearance

Activity: Clearance of the site.	
Aspect: Removal of indigenous vegetation (Weeping love grass also known as Oulandsgras) outside the project footprint.	
Nature of Environmental Impact: Loss of indigenous grassland, terrestrial habitat, and forage for life stock in the surrounding environment.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the removal of vegetation outside the project footprint during site clearance.	
Proposed Mitigation	
• Before any construction takes place the proposed area for the expansion will be pegged out. All construction activities will be limited to within these areas in order to reduce the footprint of the proposed activity and avoid impact on adjacent natural vegetation and animal life. • Construction areas should be fenced off or barricaded prior to and during construction. • Site clearing is to be limited to only the area necessary for carrying out the specified work. • The contractor is to draw up a plan for submission to the ECO and the broiler facility manager indicating the locations of construction infrastructure including the site-camp, paint or cement cleaning pits, toilets, stores, site office. • The site boundary is to be clearly demarcated and screened from the commencement of works. The erection of the final boundary fence or wall is preferable. • All demarcation is to be regularly maintained. • No unauthorised entry, stockpiling, dumping or storage of equipment outside the site boundary is permitted. • All construction activities, plant, labour and materials are to be restricted within the site boundary. • Removal of vegetation is to be avoided until such time as soil stripping is required. • Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention. • Once the construction activities have been completed, the remaining disturbed area must be top soiled, sloped and re-vegetated as soon as possible using suitable grass species. • Compacted soil should be ripped to ensure effective re-vegetation. • Soil stabilising measures could include rotovating in straw bales (at a rate of 1 bale/20m²), applying mulching or brush packing, or creating windbreaks using brush or bales.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 19: Environmental risk assessment: Topsoil stockpiling

Activity: Stockpiling of topsoil and cleared vegetation.	
Aspect: Topsoil is exposed to the elements.	
Nature of Environmental Impact: Degradation and erosion of a valuable resource (topsoil).	
Before Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	18
Objective of Mitigation Measures	
To reduce the duration and extent of exposure of topsoil, in order to preserve it as a resource and protect it from erosion.	
Proposed Mitigation	
• Before any construction takes place the proposed area for expansion will be pegged out. All construction activities will be limited to these areas. • Topsoil (top 150mm) is to be stockpiled in discrete areas and retained for future landscaping efforts. • Any sub-soil or rocks removed should also be stockpiled separately and be used during the rehabilitation. • Topsoil stockpiles shall not exceed 1m in height and 2m in width and shall be protected from wind, erosion and runoff by covering with a suitable fabric approved by the ECO. • The contractor is to ensure that all reasonable measures are taken to limit erosion during construction phase. Erosion protection measures include sand bags, cut-off drains and/or berms. • Cleared indigenous vegetation should be used as a brush pack on topsoil stockpiles for erosion prevention. • If sterilization of the topsoil during stockpiling has occurred inorganic fertilizers will be used to supplement the soils before seeding of the area takes place.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

Table 20: Environmental risk assessment: Fire risk

Activity: Hot work activities, smoking and cooking.	
Aspect: Runaway veldt fire.	
Nature of Environmental Impact: Loss of indigenous grassland, terrestrial habitat, and forage for life stock in the surrounding environment.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**

Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent the occurrence and spreading of a veldt fire.	
Proposed Mitigation	

Equipment

- Basic fire-fighting equipment is to be placed at strategic locations on site and readily available (e.g. at the site office, flammable material store and watchman's container).
- Equipment is to be maintained in good working order to the satisfaction of local fire authorities.
- All personnel handling fuels and hazardous materials are to be issued with the appropriate Personal Protective Equipment (PPE).

Signage

- Safety signage including "No Smoking", "No Naked Lights" and "Danger", and product identification signs, are to be clearly displayed on fuel storage facilities and tanks.
- Emergency numbers are to be clearly displayed.
- All construction workers shall be issued with ID badges and clearly identifiable uniforms.

Training

- An emergency procedure, taking into consideration all potential emergencies, such as a fire outbreak, hazardous chemical spill, etc. should be compiled.
- The contractor is to ensure that all employees, including sub-contractors and their employees, are trained on the emergency procedure.
- Follow-up emergency training may be required from time to time as new subcontractors or crews commence work.
- The contractor is to maintain accurate records of any emergency training undertaken.
- The ECO shall monitor the contractor's compliance with the requirement to provide sufficient emergency training to all site staff.

Activities

- All construction workers shall be transported to and from site on a daily basis.
- Workers shall remain on the site at all times during the work day and no one will be allowed to leave site by foot, not even during break times.
- Cooking during lunch is to be restricted to bottled gas facilities in designated areas approved by the ECO. This facility is to be supervised and strictly controlled.
- A dedicated braai facility may be permitted in an area approved by the ECO, if the campsite in close proximity to firefighting equipment. At no time is a braai fire to be left unattended.
- Smoking is prohibited near places where any readily combustible or flammable materials are present. Notices are to be prominently displayed prohibiting smoking in such areas.
- Welding, flame cutting and other hot work is only to be undertaken in places where the necessary safety precautions are in place (i.e. not near potential sources of combustion and with a fire extinguisher immediately accessible).
- Night watchmen are to be provided with adequate cooking and heating facilities (no open fires), a suitable method of disposing of wastewater, and access to communication equipment.
- No open fires are permitted.

Flammable materials

- Flammable materials storage must comply with standard fire safety regulations.
- All flammable materials are to be stored in a suitable, lockable storage area.
- Combustible materials may not accumulate on the construction site.

• Access to fuel and chemical stores should be strictly controlled. • Stockpiles of vegetation are only to be located in areas approved by the facility manager and may not exceed 2m in height. Methods of stacking must take cognizance of the possible creation of a fire hazard. • No burning of stockpiled vegetation is permitted.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 21: Environmental risk assessment: Cement and concrete

Activity: The handling, storage, mixing, and disposal of cement and concrete.	
Aspect: Concrete and cement spillage.	
Nature of Environmental Impact: Potential soil and surface water pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the pollution of soil and surface water as a result of concrete and cement improper handling, storage, mixing and disposal of cement and concrete.	
Proposed Mitigation	
• No mixing of concrete or cement directly on the ground is permitted. The mixing of concrete will only be done on mortarboards (dugga-boards). • Ready-mix trucks are not permitted to clean chutes on site. Cleaning into foundations or a dedicated cleaning pit is permitted. • Bricklayers and plasterers are to minimise any cement spill or runoff in their work area and are to ensure that the work area is cleaned of all cement spillage at the end of each workday. • Both used and unused cement bags are to be stored in weatherproof containers so as not to be affected by rain or runoff. • Contaminated soil resulting from concrete or cement spills, including residue produced by the washing of cavities, are to be removed immediately after the spillage has occurred and placed on the appropriate rubble stockpile. • Runoff from the washing out of wall cavities is to be contained against the building by excavations of berms around the foundations. All reasonable measures must be taken to prevent the dirty water from contaminating a watercourse.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of	**4**

Impact + Intensity of Impact	
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**

Table 22: Environmental risk assessment: Generation of wastewater

Activity: The cleaning of equipment and construction areas.	
Aspect: Concrete and cement runoff.	
Nature of Environmental Impact: Potential soil and surface water pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the pollution of soil and surface water bodies by wash water runoff containing concrete and cement contaminants.	
Proposed Mitigation	
• No washing of vehicles is permitted on site. • A dedicated temporary cleaning area is to be identified to facilitate washing of all cement and painting equipment. • The cleaning area could be a plastic lined cleaning pit or dedicated plastic or metal drums, located as close as possible to a water point. • No wastewater may be disposed of on site, onto the soil or into any water body. • Runoff from the washing activities is to be contained against the building by excavations of berms around the foundations.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**

Table 23: Environmental risk assessment: Vehicle and equipment maintenance.

Activity: Vehicle and equipment maintenance and fueling.	
Aspect: Leaking and/or spilling of fuels, greases and oils.	
Nature of Environmental Impact: Hydrocarbon pollution of soils, surface -and ground water.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	3
Environmental Risk = Significance of Impact X Probability	**21**

Objective of Mitigation Measures	
To prevent hydrocarbon pollution of soils, surface- and ground water by spilling of fuel, grease or oil and leaking equipment and vehicles.	
Proposed Mitigation	
• Equipment and vehicles are to be repaired immediately upon developing leaks. • Drip trays shall be supplied for all repair work undertaken on machinery on site. • Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to contain incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Appropriate equipment to deal with emergency spill incidents is to be readily available on site. This includes fire extinguishers, spill kits for hydrocarbon spills, drip trays for equipment and/or machinery leaks, drums or containers for contaminated water. • Soil contaminated with hazardous substances, fuel or oil shall be treated as hazardous waste and removed from site. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • All liquid fuels (petrol and diesel) are to be stored in tanks or containers with lids. • Inspect vehicles on entering the facility to ensure vehicles are in sound condition to reduce the risk of oil or diesel spillages.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**

Table 24: Environmental risk assessment: General/domestic and hazardous waste

Activity: Handling, storage and disposal of general/domestic and hazardous waste.	
Aspect: Poor waste management.	
Nature of Environmental Impact: Soil, surface- and ground water pollution. Nuisance caused by odours and unsightly appearance of waste onsite.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	**18**
Objective of Mitigation Measures	
To prevent soil, surface- and ground water pollution and the nuisance as a result of poor waste management.	
Proposed Mitigation	
• Installation of sufficient waste bins and skips/bulk containers where necessary. • All containers (bins and skips/bulk containers) shall be kept in a clean and hygienic manner. • Containers (bins and skips/bulk containers) utilized for the disposal of general and hazardous waste	

must be demarcated accordingly. • Waste material may only be temporarily stored at areas demarcated for such storage practices, • General waste shall be stored in a manner that prevents the harbouring of pests. • General waste materials should always be stored or disposed of separately from hazardous waste material (e.g. oil, diesel), • General and hazardous waste generated during production is to be disposed of in appropriately demarcated bins. • Bins are then emptied into appropriately demarcated skips/bulk containers with every break or more as the need arise. • Skips/bulk containers should be removed to a nearby landfill site on a weekly basis or more as the need arise.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 25: Environmental risk assessment: Dust

Activity: Excavation activities, loading and offloading activities and vehicles travelling to and from the site.	
Aspect: Dust generation.	
Nature of Environmental Impact: Degradation of ambient air quality.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	**18**
Objective of Mitigation Measures	
To minimise the impact of excavation activities, loading and offloading activities, and vehicles travelling to and from the site, on the ambient air quality.	
Proposed Mitigation	
• A dustcart needs to be onsite to water down dusty road. • Speed bumps or traffic speed signs need to be erected to reduce speeding onsite that could result in the generation of dust. • Regular maintenance of vehicles to address wear of tires and breaks. Optimal engine combustion will allow for 'cleaner' exhaust emissions.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

Table 26: Environmental risk assessment: Utilisation of groundwater

Activity: Utilisation of groundwater.	
Aspect: Water leaking from JoJo tanks, pipes, taps etc.	
Nature of Environmental Impact: Wastage/depletion of a valuable resource (groundwater).	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
Prevent the wastage/depletion of a valuable resource (groundwater).	
Proposed Mitigation	
• Regular inspection and maintenance of all boreholes, JoJo tanks, toilets, water pipes and taps. • Leaking JoJo tanks, taps, toilets and pipes are to be repaired immediately. • Running water taps and pipes may not be left unattended. • Each time you flush the toilets approximately 20 litres of water is used, therefore use the toilets accordingly. • All pipe/hose and tap connections are to be fitted with correct and appropriate plumbing fittings.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**

Table 27: Environmental risk assessment: Ablution facilities

Activity: Installation and use of ablution facilities.	
Aspect: Unsanitary conditions on site	
Nature of Environmental Impact: Soil, surface- and ground water pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
Prevent soil, surface- and groundwater pollution from unsanitary conditions onsite.	
Proposed Mitigation	

• Sufficient ablution facilities shall be provided – minimum of 1 toilet per 15 workers. • The location of toilets is to be approved by the ECO prior to site establishment, but shall be located within 100m of any work point. • Ablating anywhere other than in the toilets shall not be allowed. • The ablution facilities are to be secured to avoid them from blowing or falling over. • The Contractor shall ensure that any chemicals and/or waste from the ablution facilities are not spilled on the ground at any time. • Ablution facilities are to be serviced weekly or more frequently if required. • The contractor is to ensure that no spillage occurs and that the contents are removed from site according to approved methods.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 28: Environmental risk assessment: Hazardous chemical substances.

Activity: Storage and handling of hazardous chemical substances, including fuel, greases and oils.	
Aspect: Poor management and spills of hazardous chemical substances, including fuel, greases and oils.	
Nature of Environmental Impact: Soil, surface water and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	3
Environmental Risk = Significance of Impact X Probability	21
Objective of Mitigation Measures	
To prevent and minimise soil and water pollution as a result of poor management and accidental spills of hazardous chemical substances including fuel, greases and oils used onsite.	
Proposed Mitigation	
• Identify all hazardous chemical substances used onsite, including fuel, greases and oils. • Obtain the material safety data sheet of each of these hazardous chemical substances. • Ensure that the material safety data sheets have sufficient information to enable the user to take the necessary measures to protect his/her health and safety and that of the environment. • Material Safety Data Sheets for all hazardous chemical substances must be readily available on site. • Keep a stock inventory register of all chemicals in the store. • Powders must be stored above liquids. • Proper storage of chemicals in a lockable, well ventilated building. • Ensure adequate access control for the storage area. • Storage areas for hazardous chemicals are to comply with standard fire safety regulations. • Safety signage including “No Smoking”, “No Naked Lights” and “Danger”, and product identification signs, are to be clearly displayed in areas housing chemicals. • Appropriate equipment to deal with emergency spill incidents is to be readily available on site. This	

includes fire extinguishers, spill kits for hydrocarbon spills, drip trays for equipment and/or machinery leaks, drums or containers for contaminated water. • Chemicals are to be properly labeled and handled in a safety conscious manner. • All personnel handling hazardous chemicals and hazardous materials are to be issued with the appropriate Personal Protective Equipment (PPE). • Ensure that diesel/ fuel tanks are in a bunded area with capacity of holding 110% of the total storage volume. • The removal of only the daily-required amount of chemicals to be used from the shed. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • Use of drip trays during filling of machinery or equipment. Drip trays should be emptied into secondary containers on a regular basis. • Ensure that any spilled chemical cannot exit the designated storage area by constructing a hump / bump at the exit, or store chemicals in a spill tray. • Clean all spillage of fuels, lubricants and other petroleum based products immediately. • The contaminated material must be disposed of in accordance with the waste management procedure. • No hazardous chemical must be discarded in the sewage or storm water system. • Train staff on the use of chemicals in accordance with the risks as described in the material data sheets. • Soil contaminated with hazardous chemical substances shall be treated as hazardous waste and removed from site.

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**

Table 29: Environmental risk assessment: Noise

Activity: Construction workers, vehicles, machinery and general noisy construction activities.	
Aspect: Generation of noise.	
Nature of Environmental Impact: Disturbance and nuisance to neighbors.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**
Objective of Mitigation Measures	
Minimise the noise generation during the construction phase.	
Proposed Mitigation	
• The site workers and contractors will adhere to the requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) regarding hearing protection and noise control measures. • Regular maintenance of vehicles and equipment.	

• All equipment and machinery should be fitted with adequate silencers. • Working hours should be restricted to daylight hours. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • If work is to be undertaken outside of normal work hours permission must be obtained from the ECO and the broiler facility manager. • No noisy work is to be conducted over the weekends or on public holidays.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

7.2 Operational Phase

Table 30: Environmental risk assessment: Environmental Awareness and Training

Activity: Operational activities at the broiler facilities.	
Aspect: Lack of environmental knowledge among employees.	
Nature of Environmental Impact: Harm to the environment due to employees being unaware of how their activities may impact the environment or due to unauthorised access to the site.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To prevent harm to the environment through the actions of uneducated employees.	
Proposed Mitigation	
• All employees are required to attend onsite Environmental Awareness/Training prior to commencing work on site. • Follow-up Environmental Awareness/Training may be required from time to time as new employees commence work or for specific activities that may potentially impact the environment. • The facility manager is to maintain accurate records of any training undertaken. • The ECO shall monitor the facility managers' compliance with the requirement to provide sufficient environmental awareness training to all site staff. • Training is to cover all aspects of the EMP and procedures to be followed.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 31: Environmental risk assessment: Dust

Activity: Increased traffic frequency	
Aspect: Dust generation.	
Nature of Environmental Impact: Degradation of ambient air quality.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	**18**
Objective of Mitigation Measures	

To minimise the impact of dust generated by the increased traffic frequency on the ambient air quality.	
Proposed Mitigation	
• A dustcart needs to be onsite to water down dusty road. • Speed bumps or traffic speed signs need to be erected to reduce speeding onsite that could result in the generation of dust. • Regular maintenance of vehicles to address wear of tires and breaks. Optimal engine combustion will allow for 'cleaner' exhaust emissions. • Open areas should be ripped, if the soil is compacted, fertilized to ensure and re-vegetated as soon as possible using suitable grass species.	
After Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

Table 32: Environmental risk assessment: Heatco ovens and coal storage areas

Activity: A-grade coal used in Heatco ovens to heat broiler houses.	
Aspect: Generation of emissions from Heatco ovens (such as carbon dioxide, carbon monoxide, sulphur dioxide and nitrous oxides) and Coal storage areas (Fine coal dust/Particulate matter).	
Nature of Environmental Impact: Degradation of ambient air quality.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
To minimise the impact of emissions generated during the heating of broiler facilities on the ambient air quality.	
Proposed Mitigation	
• Continue the use of A-grade coal in the Heatco ovens, as a lower grade coal may result in higher sulphur emissions. • Regular maintenance of the Heatco ovens. Optimal combustion will allow for 'cleaner' stack emissions. • Ensure adequate storage of coal to minimize dispersion of fine coal dust, i.e. a covered storage area. • Storage area should be demarcated and Safety signage including "No Smoking", "No Naked Lights" and "Danger", are to be clearly displayed at the coal storage area. • Fire extinguishers should be readily available at the coal storage area.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of	**3**

Impact + Intensity of Impact	
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 33: Environmental risk assessment: Noise

Activity: Increased vehicle frequency and general operational activities.	
Aspect: Generation of noise.	
Nature of Environmental Impact: Disturbance and nuisance to neighbors.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**
Objective of Mitigation Measures	
To maintain a dB reading of less than 50dB at the site boundary.	
Proposed Mitigation	
• The site workers and contractors will adhere to the requirements of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) regarding hearing protection and noise control measures. • Regular maintenance of vehicles, back-up generators and equipment. • All equipment and machinery should be fitted with adequate silencers. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • If work is to be undertaken outside of normal work hours permission must be obtained from the ECO and the broiler facility manager. • No noisy work is to be conducted over the weekends or on public holidays.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 34: Environmental risk assessment: Handling and storage of Coal.

Activity: Handling and storage of coal.	
Aspect: Poor management and spillage of coal.	
Nature of Environmental Impact: Soil, surface- and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2

Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
To ensure the proper handling and storage of coal.	
Proposed Mitigation	
• Store coal utilized for climate control in bunkers. • Construct a hump/berm at the bunker entrance to prevent rain water from entering. • Construct a roof to prevent rain water from being contaminated by the coal. • Prevent coal spillages during loading and remove any coal spillages from the soil and return to the coal bunker.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 35: Environmental risk assessment: General/domestic and hazardous waste

Activity: Handling, storage and disposal of general/domestic and hazardous waste.	
Aspect: Poor waste management.	
Nature of Environmental Impact: Soil, surface- and ground water pollution. Nuisance caused by odours and unsightly appearance of waste onsite.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	**18**
Objective of Mitigation Measures	
To prevent soil, surface- and ground water pollution and the nuisance as a result of poor waste management.	
Proposed Mitigation	
• Develop a waste management plan. • Take note that hazardous waste includes; litter, mortalities, ash, empty hazardous chemical substance containers, soil and material (e.g. cloths) contaminated by hazardous chemical substances, etc. • The waste management plan should consider the type of waste, description, source, storage, disposal method, disposal facility and responsible person. • The implementation of the waste management plan should ensure; ➢ Installation of sufficient waste bins and skips/bulk containers where necessary. ➢ All containers (bins and skips/bulk containers) shall be kept in a clean and hygienic manner. ➢ Containers (bins and skips/bulk containers) utilized for the disposal of general and hazardous waste must be demarcated accordingly. ➢ Waste material may only be temporarily stored at areas demarcated for such storage practices, ➢ General waste shall be stored in a manner that prevents the harbouring of pests. ➢ General waste materials should always be stored or disposed of separately from hazardous waste	

material (e.g. oil, diesel), ➢ General and hazardous waste generated during production is to be disposed of in appropriately demarcated bins. ➢ Bins are then emptied into appropriately demarcated skips/bulk containers with every break or more as the need arise. ➢ Skips/bulk containers should be removed to a nearby landfill site on a weekly basis or more as the need arise. ➢ Safe disposal certificates should be requested from general and hazardous landfill sites with every waste dumping. ➢ These safe disposal certificates should be kept on file to illustrate compliance with the cradle to grave principle. ➢ The ECO shall monitor the compliance with the cradle to grave principle. • No incineration of any kind of waste will be permitted onsite.

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 36: Environmental risk assessment: Handling, storage and disposal of ash.

Activity: The burning of A-grade coal in Heatco ovens to heat broiler houses.	
Aspect: Generation of ash.	
Nature of Environmental Impact: Ash consists mainly of inert materials such as alumina and silica and small quantities of sulphur that could, if stored in huge quantities, react with water and cause acid drainage.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	18
Objective of Mitigation Measures	
To prevent soil, surface- and ground water pollution and the nuisance as a result of poor waste management.	
Proposed Mitigation	
Note: The management of ash should be included in the waste management plan. • Ash must be stored on a concrete area or in suitable container prior to removal. • Further research and consulting is required to determine which technology, design and process would be the most economically, socially and environmentally sustainable option for the handling, storage and disposal of ash.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1

Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 37: Environmental risk assessment: Chicken mortalities

Activity: Storage and disposal of chicken mortalities	
Aspect: Poor waste (chicken mortality) management.	
Nature of Environmental Impact: Soil, surface- and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	18
Objective of Mitigation Measures	
To minimize the impact of hazardous mortality waste on human and other avian health, soil-, surface-, groundwater pollution and the nuisance caused by odours.	
Proposed Mitigation	
Note: The management of chicken mortalities should be included in the waste management plan. **Temporary storage of mortalities** • The temporary storage area for mortalities must be a covered area that has access control, preventing the unlawful removal of mortalities. • In the event of temporary storage, mortalities must be stored in sealed bins prior to disposal. **Disposal of mortalities** • Mortalities must be disposed of as soon as possible. • Mortalities are currently incinerated in an old silo. **Disposal of mass mortalities** In the event of a disease outbreak: • Notify the state vet. • The state vet must visit the site. • The state vet will place the property, or the specific chicken site or house that is infected, under quarantine. • Depending on the disease and severity, the chickens can be slaughtered on site or transported to a abattoir with a red cross permit. • Alternatively, mortalities can be covered with lime and buried. **Alternative methods of disposal** • The burning of mortalities in the silo triggers both a listed activity in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and in terms of National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). • Mortalities could be disposed of in on-site mortality pits. Take note that a mortality pit will trigger a waste management license in terms of Government Notice No. 718 as contemplated in Section	

19(1) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008).

- Mortalities could be composted onsite. The implementation of such a facility will entail initial capital investment costs and ongoing operational costs and depending on the design and/or method of composting might trigger a waste management license in terms of Government Notice No. 718 as contemplated in Section 19(1) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). In the long term the initial capital investment could be offset through the selling of compost.

Further research and consulting is required to determine which technology, design and process would be the most economically, socially and environmentally sustainable option for the handling, storage and disposal of mortalities.

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 38: Environmental risk assessment: Litter (manure and bedding)

Activity: Handling, storage and disposal of chicken litter.	
Aspect: Poor waste (litter) management.	
Nature of Environmental Impact: Soil, surface- and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	3
Environmental Risk = Significance of Impact X Probability	18
Objective of Mitigation Measures	
To minimize the impact of chicken litter on soil-, surface- and ground-water pollution and the nuisance caused by odors from the litter.	
Proposed Mitigation	
Note: The management of chicken litter should be included in the waste management plan. • Maintain good litter conditions by keeping the litter dry throughout the production cycle. • Litter should be collected and bagged immediately after a production cycle and prior to removal. • The broiler houses must be dry cleaned efficiently to remove as much litter as possible and to reduce contamination of wash water used. • The removal of manure will occur after every cycle is completed to prevent accumulation on site, keeping the nutrient rich manure from polluting surface and ground water bodies, avoiding offensive smells and ensuring the hygiene and health of the new flock. • Litter will be preserved in a dry area, covered by sheeting or within a shed to protect it from rain and leaching in order to prevent noxious odours and ammonia from forming. • Litter will then be fed to cattle on the farm. Research and consulting will be required to determine which technology, design and process would be the	

most economically, socially and environmentally sustainable option for the handling, storage and disposal of litter.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 39: Environmental risk assessment: Washing of broiler facilities.

Activity: Washing of broiler facilities.	
Aspect: Dirty water run-off.	
Nature of Environmental Impact: Pollution, siltation and erosion of surface water bodies.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	15
Objective of Mitigation Measures	
To control waste water runoff from washing of broiler facilities.	
Proposed Mitigation	
• Rearing houses are cleaned after each cycle. • After litter is bagged and stored, high-pressure hoses should be used in the washing of the houses, to minimise the amount of water used. • Wash and sanitize rearing facilities with biodegradable soaps and disinfectants. • Use biodegradable soaps and disinfectants in the footbath and shower block. • Use biodegradable soaps and disinfectants for washing of vehicles. • Currently wash water runs off into the surrounding environment. This will no longer be permitted and an alternative method of disposal of wastewater is required. • Further research and consulting will be required to determine which technology, design and process would be the most economically, socially and environmentally sustainable option for the disposal of wastewater from washing of broiler facilities. • Recommendation: Channeling wastewater into onsite evaporation ponds.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	2
Environmental Risk = Significance of Impact X Probability	**6**

Table 40: Environmental risk assessment: Storm water control.

Activity: Rain.

Aspect: 'Clean' rainwater running into 'dirty' areas.	
Nature of Environmental Impact: Soil and surface water pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	3
Environmental Risk = Significance of Impact X Probability	**15**
Objective of Mitigation Measures	
To prevent the contamination of 'clean' rain water by 'dirty' areas through control of storm water runoff.	
Proposed Mitigation	
• Clean storm water runoff from the surrounding environment must be channeled away from 'dirty' areas. These 'dirty' areas include the; coal storage area, chemicals storage areas and all waste storage areas. • Clean storm water should be diverted and kept in the environment surrounding the site. • Storm water measures should be inspected on a regular basis in order to ensure that the structures are functional and not causing soil erosion. • Where necessary place culvets underneath road foundations.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	2
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**

Table 41: Environmental risk assessment: Chemical substances.

Activity: Storage and handling of Chemical substances, including fuel, greases, vaccines, detergents etc.	
Aspect: Poor management and spills of chemical substances.	
Nature of Environmental Impact: Soil, surface water and groundwater pollution.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	3
Environmental Risk = Significance of Impact X Probability	**21**
Objective of Mitigation Measures	
To prevent and minimise soil and water pollution as a result of poor management and accidental spills of chemical substances (fuel, greases, oils, vaccines, detergents etc).	
Proposed Mitigation	
• Identify all chemical substances used onsite, including fuel, greases, vaccines, detergents etc. • Obtain the material safety data sheet of each of these chemical substances. • Ensure that the material safety data sheets have sufficient information to enable the user to take the necessary measures to protect his/her health and safety and that of the environment.	

• Material Safety Data Sheets for all hazardous chemical substances must be readily available on site. • Develop a dangerous goods management plan based on the material safety data sheets of all identified chemical substances and the 1995 Hazardous Chemical Substances Regulations in terms of the Occupational Health and Safety Act, 1993 (Act no. 85 of 1993). • Implement a dangerous goods management plan. • Keep a stock inventory register of all chemicals in the store. • Powders must be stored above liquids. • Proper storage of chemicals in a lockable, well ventilated building. • Ensure adequate access control for the storage area. • Storage areas for hazardous chemicals are to comply with standard fire safety regulations. • Safety signage including "No Smoking", "No Naked Lights" and "Danger", and product identification signs, are to be clearly displayed in areas housing chemicals. • Appropriate equipment to deal with emergency spill incidents is to be readily available on site. This includes fire extinguishers, spill kits for hydrocarbon spills, drip trays for equipment and/or machinery leaks, drums or containers for contaminated water. • Chemicals are to be properly labeled and handled in a safety conscious manner. • All personnel handling hazardous chemicals and hazardous materials are to be issued with the appropriate Personal Protective Equipment (PPE). • Ensure that diesel/ fuel tanks are in a bunded area with capacity of holding 110% of the total storage volume. • The removal of only the daily-required amount of chemicals to be used from the shed. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • Use of drip trays during filling of machinery or equipment. Drip trays should be emptied into secondary containers on a regular basis. • Ensure that any spilled chemical cannot exit the designated storage area by constructing a hump / bump at the exit, or store chemicals in a spill tray. • Clean all spillage of fuels, lubricants and other petroleum based products immediately. • The contaminated material must be disposed of in accordance with the waste management procedure. • No hazardous chemical must be discarded in the sewage or storm water system. • Train staff on the use of chemicals in accordance with the risks as described in the material data sheets. • Soil contaminated with hazardous chemical substances shall be treated as hazardous waste and removed from site.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

Table 42: Environmental risk assessment: Equipment and vehicle maintenance.

Activity: Vehicle and equipment maintenance and fueling.
Aspect: Leaking and/or spilling of fuels, greases and oils.
Nature of Environmental Impact: Hydrocarbon pollution of soils, surface -and ground water.
Before Mitigation

Extent of the Impact	2
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**7**
Probability	3
Environmental Risk = Significance of Impact X Probability	21
Objective of Mitigation Measures	
To prevent hydrocarbon pollution of soils, surface- and ground water by spilling of fuel, grease or oil and leaking equipment and vehicles.	
Proposed Mitigation	
• Inspection and maintenance of equipment, generators and vehicles owned by Langspruit boerdery shall take place on a regular basis. • Security shall inspect vehicles (Such as those that belong to Earlybird Farm) on entering the facility to ensure vehicles are in sound condition to reduce the risk of oil or diesel spillages. • Equipment, generators and vehicles are to be repaired immediately upon developing leaks. • Generators must be stored on a concrete floor in a bunded area. • Drip trays shall be supplied for all repair work undertaken on machinery on site. • Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to contain incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Appropriate equipment to deal with emergency spill incidents is to be readily available on site. This includes fire extinguishers, spill kits for hydrocarbon spills, drip trays for equipment and/or machinery leaks, drums or containers for contaminated water. • Soil contaminated with hazardous substances, fuel or oil shall be treated as hazardous waste and removed from site. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • All liquid fuels (petrol and diesel) are to be stored in tanks or containers with lids.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	2
Environmental Risk = Significance of Impact X Probability	**10**

Table 43: Environmental risk assessment: Sanitation

Activity: Installation and use of ablution facilities.	
Aspect: Unsanitary conditions on site	
Nature of Environmental Impact: Potential surface- and/or ground water- contamination.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**

Probability	2
Environmental Risk = Significance of Impact X Probability	**10**
Objective of Mitigation Measures	
Prevent soil, surface- and groundwater pollution from unsanitary conditions onsite.	
Proposed Mitigation	
• Sufficient ablution facilities shall be provided – minimum of 1 toilet per 15 workers. • The location of toilets is to be approved by the ECO prior to site establishment, but shall be located within 100m of any work point. • Ablution facilities shall be inspected and maintained to prevent or minimize blockage and leakages. • Ablution facilities are to be serviced weekly or more frequently if required. • Toilets should have properly closing doors and supplied with toilet paper. • Awareness of the importance of proper hygiene should be created among employees. • Ablating anywhere other than in the toilets shall not be allowed.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1
Environmental Risk = Significance of Impact X Probability	**3**

Table 44: Environmental risk assessment: Outbreak of disease or infection of chickens

Activity: Rearing of Broilers.	
Aspect: Outbreak of poultry disease	
Nature of Environmental Impact: Infection and possible death of chickens, other avian species and humans.	
Before Mitigation	
Extent of the Impact	3
Duration of the Impact	2
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**8**
Probability	3
Environmental Risk = Significance of Impact X Probability	**24**
Objective of Mitigation Measures	
To prevent the outbreak of a poultry disease among chickens, other avian species and humans.	
Proposed Mitigation	
• All chickens should originate from a closed biosecurity compartment. • All chicks should originate from disease free sources. • Chicks from another farm should not be mixed with chickens in the flock. • Access control to and from the premises and access to the premises should only be by prior arrangement. • Installation of footbaths with disinfectant at all the entrances to each of the broiler facilities. • Installation of showers for all staff working on site. • Use a sound vaccination program. • Never permit contaminated equipment from other poultry farms in the buildings. • Keep wild birds, rodents and predators away from the broiler houses. • Installation of rodent bait traps and flytraps.	

• Clean and sanitize broiler houses after each cycle with biodegradable soaps and disinfectants. • Monitoring and auditing of processes by a contracted veterinarian or State Vet. • Obtain a reliable diagnosis before starting treatment for a disease problem. • Seek advice of a trained poultry diagnostician when it is apparent that a disease is present in the flock. • When submitting a sample to a diagnostic laboratory, submit a sample of the problem flock. The sample should include two or more sick birds and freshly dead birds, if any. Take care to preserve dead specimens by cooling and preventing decomposition. It is not recommended to freeze dead birds as this may cause cell rupture and make diagnosis more difficult. • Proper handling, storage and disposal of litter and mortalities, in demarcated areas, away from foot traffic or vehicles entering and leaving the premises.

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**5**
Probability	1
Environmental Risk = Significance of Impact X Probability	**5**

Table 45: Environmental risk assessment: Resource use during operation

Activity: Usage of resources such as electricity and water.	
Aspect: Inefficient and redundant use of a valuable resource.	
Nature of Environmental Impact: Wastage/depletion of valuable resources.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	3
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**6**
Probability	2
Environmental Risk = Significance of Impact X Probability	**12**
Objective of Mitigation Measures	
To prevent the inefficient and redundant use of valuable resources.	
Proposed Mitigation	
General • Ensure that all employees have been informed on the importance of natural resources (Proper environmental training and awareness). • Regular site inspection by supervisors. • Inspect operations regularly to determine areas of improvement with regards to resource consumption. • Regular maintenance and inspection of equipment, such as hose pipes, to prevent leaks. • Monitoring of resource consumption. • Identify areas where resource consumption can be minimised. • Set targets to try minimise resource consumption. • Identify technologies and practices which may reduce resource consumption. • Implementation of technologies and practices which can reduce resource consumption. **Water**	

• Regular inspection and maintenance of all boreholes, JoJo tanks, toilets, water pipes and taps. • Leaking JoJo tanks, taps, toilets and pipes are to be repaired immediately. • Running water taps and pipes may not be left unattended. • Each time you flush the toilets approximately 20 litres of water is used, therefore use the toilets accordingly. • All pipe/hose and tap connections are to be fitted with correct and appropriate plumbing fittings. **Electricity** • Save electricity by turning off lights and computers when leaving the office. • Halogen light bulbs convert approximately 80% of the energy used into heat rather than light. Replace spent light bulbs with energy saving CFLs (compact fluorescent light) or newer and more efficient LEDs (light emitting diode).

After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	2
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	1
Environmental Risk = Significance of Impact X Probability	**4**

Table 46: Environmental risk assessment: Alien invasive vegetation

Activity: Growth of vegetation.	
Aspect: Infestation of alien invasive vegetation.	
Nature of Environmental Impact: Loss indigenous habitat and excessive water usage.	
Before Mitigation	
Extent of the Impact	2
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**4**
Probability	2
Environmental Risk = Significance of Impact X Probability	**8**
Objective of Mitigation Measures	
To prevent control of alien invasive plant species	
Proposed Mitigation	
• Ensure all alien invasive plants are identified on the site. • Ensure an eradication plan for the removal of the alien invasive vegetation is developed. • Ensure all alien invasive vegetation is removed from the site in accordance to the eradication plan. • Alien invasive vegetation will be eradicated and controlled by manual removal, chemical application and/or biological control. The regulations in terms of the Conservation of Agricultural Resource Act, 1983 apply.	
After Mitigation	
Extent of the Impact	1
Duration of the Impact	1
Intensity of the Impact	1
Significance of Impact = Extent of Impact + Duration of Impact + Intensity of Impact	**3**
Probability	1

Environmental Risk = Significance of Impact X Probability	3

7.3 Environmental Impact Statement and Recommendation

During the construction and operational phases, the project can be expected to have low to medium negative impacts on the various environmental attributes prior to mitigation and low negative impacts with proper mitigation measures implemented.

The project can be expected to have a positive impact on the regional and local socio-economy during the construction phase. This will be as a result of the creation of jobs as well as procurement opportunities from local suppliers in the area. These benefits can be maximised through preference in procurement processes to local firms and employment of local labourers.

Once operational, the expansion of the broiler facility will directly contribute to the local economy and indirectly to the regional and national economy. Benefits of the project outweigh the potential negative environmental and social impacts that can be mitigated to within acceptable levels.

Based on the outcomes of the risk assessments conducted as part of the EIA, coupled with the recommendations made by the EAP, the overall negative impact of the project is of **medium to high significance** that can be reduced to **Low significance** through the implementation of simple, effective mitigation measures.

The following recommendations are thus made:-

1) **The project should be approved and allowed to proceed.**
2) **The mitigation measures proposed above that have also been incorporated into the EMP in more detail, must be implemented during the construction and operational phases.**
3) **A communications pathway must be established that would allow the designated ECO to accept and deal with stakeholder complaints.**
4) **Mitigation measures proposed above should be incorporated as far as possible into the operational plan for the development.**
5) **Strict monitoring and enforcement of requirements of the EMP must be undertaken to ensure that contractors and operators adhere to these requirements.**