Chubby Chick Enterprises

Rendering Facility EIA – draft Scoping Report

Locality: Potchefstroom

Departmental Ref No: NWP/EIA/62/2013

Date: 23 May 2014

SHANGONI
Management Services (Pty) Ltd

DRAFT SCOPING REPORT

Chubby Chick Enterprises

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Locality: Potchefstroom

Departmental Ref No: NWP/EIA/62/2013

Date: 23 May 2014

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Management Services (Pty) Ltd

PROJECT DETAILS

North-West Department of Economic Development, Environment, Conservation and Tourism

Reference No.: NWP/EIA/62/2013

Project Title: Chubby Chick Rendering Facility

Project Number: FOU-POT-12-05-02

Compiled by: Lizette Crous

Date: 23 May 2014

Location: Pretoria

Technical Reviewer: Brian Hayes

RB Hayes (Pr.Eng.)

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DEFINITIONS

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 organisation'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 organisation'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 some human act.

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, in order 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 plants growing in and characterising 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.

Water Resource

- a river or a spring;
- a natural channel in which water flows regularly or intermittently;
- a wetland, lake or dam into which, or from which, water flows;
- any collection of water which the Minister may declare to be a watercourse; and
- surface water, estuaries and aquifers (underground water).

All water bodies in the hydrological cycle, including underground water, are regarded as water resources.

Water Course

- a river or spring;
- a natural channel or depression in which water flows regularly or intermittently;
- a wetland, lake or dam into which, or from which water flows; and
- any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998).

Water Use

Water use includes taking and storing water, activities which reduce stream flow, waste discharges and disposals, controlled activities (activities which impact detrimentally on a water resource), altering a watercourse, removing water found underground for certain purposes, and recreation.

Wastewater

Wastewater is water containing waste, or water that has been in contact with waste material.

- Wastewater includes
  - domestic wastewater
  - biodegradable industrial wastewater
  - industrial wastewater.

Wetland

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

ABBREVIATIONS

BID	-	Background Information Document
CRR	-	Comments and Responses Report
DWA	-	Department of Water Affairs
EAP	-	Environmental Assessment Practitioner
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 No. 107 of 1998), as amended
NW DEDECT	-	North West Department of Economic Development, Environment, Conservation and Tourism
R	-	Regulation

EXECUTIVE SUMMARY

The Applicant

Cycle City (Chubby Chick Enterprises) is a poultry production company based in Potchefstroom. The company owns various chicken raising farms, both traditional broiler farms and free-range farms, in the Potchefstroom area and slaughters the chickens at their own abattoirs in Potchefstroom.

Background description

A common challenge in the poultry industry is how to dispose of poultry waste such as mortalities from the chicken farms and blood produced in the slaughtering process. A responsible and economically viable option is to process the poultry waste into a poultry by-product meal at a rendering facility. The meal can then be used as an additive in the production of animal feeds, such as cattle feed.

Project description

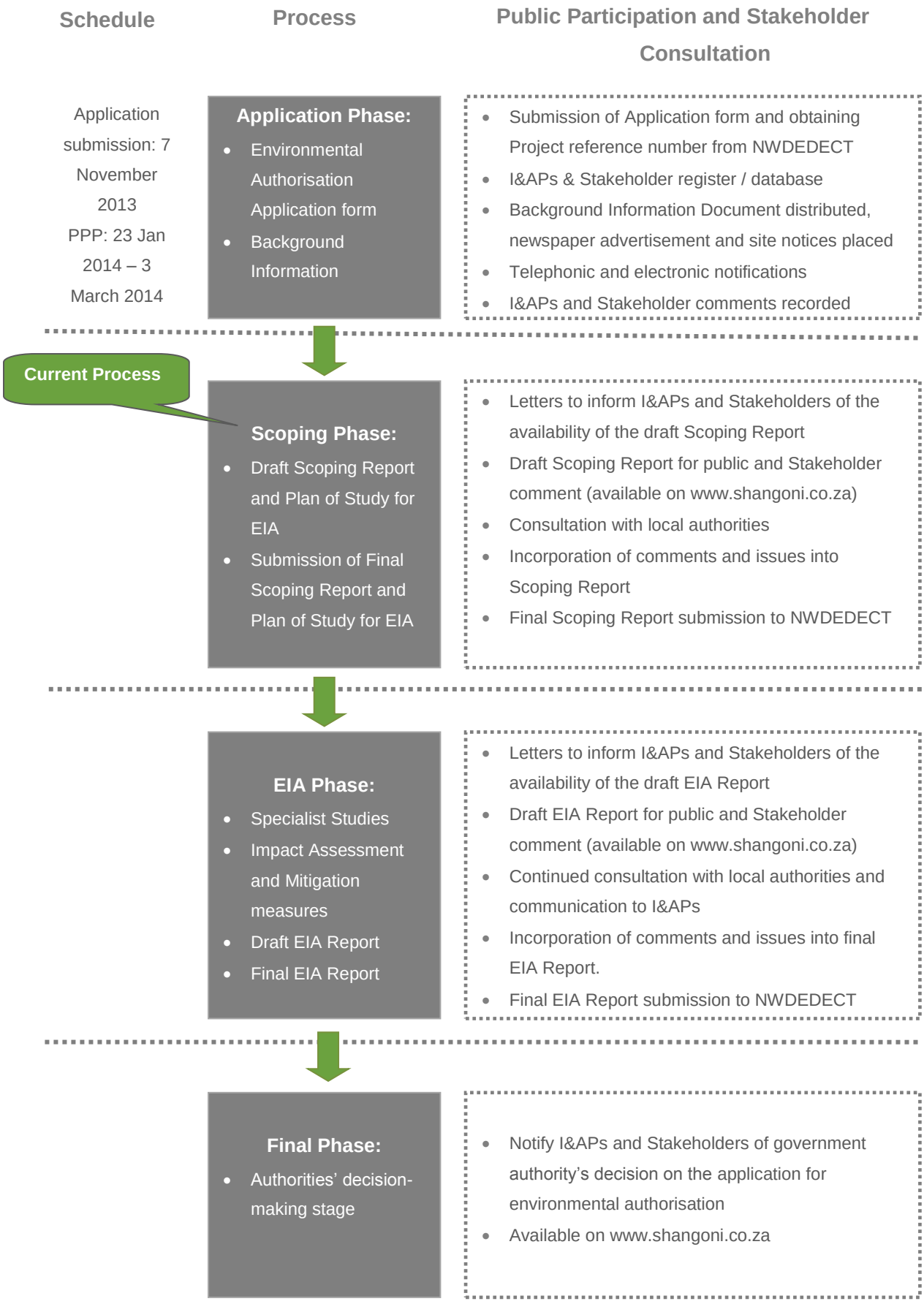
The Chubby Chick rendering facility has been operational since 1997 and has a Sterilisation License in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947). The facility does, however, not have an Atmospheric Emission License or Water Use License and therefore this EIA process has been initiated. A separate Waste Management License Application process is also underway at the National Department of Environmental Affairs.

Legal requirements and legislative process

As part of the operation of the rendering facility, listed activities defined under the National Environmental Management Act, Act 107 of 1998 (NEMA, 1998) and its regulations, occur. Relevant listed activities triggered by the rendering facility are described further in this Scoping Report (refer to Part 1.5).

It is the intention of this Scoping Report to provide the necessary information pertaining to the activities associated with the project, as required in terms of the Environmental Impact Assessment Regulations (EIA Regulations R543: EIA Regulations in terms of Chapter 5 of the NEMA, 1998, dated 18 June 2010). This Scoping Report intends to highlight all information relevant to the rendering facility project.

The diagram below provides a visual representation of approach followed for the Scoping- and EIA in terms of NEMA, 1998 and the Environmental Impact Assessment Regulations, dated 2010.


Schedule
Process
Public Participation and Stakeholder Consultation
Application submission: 7 November 2013
PPP: 23 Jan 2014 – 3 March 2014
Application Phase:
Environmental Authorisation Application form
Background Information
Submission of Application form and obtaining Project reference number from NWDEDECT
I&APs & Stakeholder register / database
Background Information Document distributed, newspaper advertisement and site notices placed
Telephonic and electronic notifications
I&APs and Stakeholder comments recorded
Current Process
Scoping Phase:
Draft Scoping Report and Plan of Study for EIA
Submission of Final Scoping Report and Plan of Study for EIA
Letters to inform I&APs and Stakeholders of the availability of the draft Scoping Report
Draft Scoping Report for public and Stakeholder comment (available on www.shangoni.co.za)
Consultation with local authorities
Incorporation of comments and issues into Scoping Report
Final Scoping Report submission to NWDEDECT
EIA Phase:
Specialist Studies
Impact Assessment and Mitigation measures
Draft EIA Report
Final EIA Report
Letters to inform I&APs and Stakeholders of the availability of the draft EIA Report
Draft EIA Report for public and Stakeholder comment (available on www.shangoni.co.za)
Continued consultation with local authorities and communication to I&APs
Incorporation of comments and issues into final EIA Report.
Final EIA Report submission to NWDEDECT
Final Phase:
Authorities' decision-making stage
Notify I&APs and Stakeholders of government authority's decision on the application for environmental authorisation
Available on www.shangoni.co.za

Anticipated impacts

For the purpose of the Scoping report it is required by Regulation 28 (g) of Regulation 543 of the EIA Regulations dated 2010, under the NEMA, 1998, that the major potential impacts that the activities, processes and actions may have on the surrounding environment, are identified.

Regulation 31 of Regulation 543 of the EIA Regulations, 2010, under the NEMA, 1998, requires that an Environmental Impact Assessment Report (EIR) includes an assessment of the status; extent; duration; probability; reversibility; replaceability of resources; and mitigatory potential of the major potential environmental impacts of the project be undertaken.

An identification of the major potential impacts has therefore been included as part of the requirements for the compilation of this Scoping Report. The prediction of the nature of each impact, the evaluation of each impact by rating its significance and the management and mitigation measures proposed to address each impact, will be assessed in the Environmental Impact Report (EIR).

The activities associated with the project are described in detail in Section 2 and the anticipated impacts of the project are described in Section 7.

Potential significant impacts that have been identified during the scoping process are:

- Soil-, surface water- and groundwater pollution;
- Generation of noise and subsequent nuisance to nearby landowners;
- Generation of atmospheric emissions, dust and odours and subsequent nuisance to nearby landowners;
- Loss or disturbance of vegetation;
- Loss of topsoil;
- Soil erosion;
- Disturbance of a drainage line and possible wetland zones; and
- Contamination of surface water runoff.

Additional potentially significant impacts may be highlighted at a later stage during the process. The extent of the potentially significant impacts will be quantified and will be reported on as part of the EIR.

Knowledge gaps

The following knowledge gaps and uncertainties have been identified during the scoping process of the proposed rendering facility project and require further investigations that will be carried out as part of the EIA phase of this project:

- The specialist studies identified during the Scoping Phase include a Wetland Assessment and delineation, a Stormwater Management Plan, an Air Quality Impact Report and a monitoring plan (quality and quantity of water used and discharged or irrigated);
- While impacts have been identified as part of the scoping process, it is required as part of the EIA Phase to fully quantify impacts to all aspects of the environment; and
- Designs are being developed for the new wastewater treatment works and potentially for the lining of the existing wastewater evaporation pond. These designs will be presented as part of the final EIR.

1. INTRODUCTION

This draft Scoping Report forms part of an application for environmental authorisation for the Chubby Chick rendering facility on Portion 198 of the farm Wilgeboom 458 IQ. The application is made in terms of the EIA Regulations of 18 June 2010 under the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The application process is undertaken on behalf of the applicant, Cycle City (Pty) Ltd – Trading as Chubby Chick Enterprises, by Shangoni Management Services (Pty) Ltd. Shangoni was appointed, as independent environmental practitioner, to assist the applicant in undertaking the process as prescribed in the previously mentioned environmental legislation.

An application to undertake an Environmental Impact Assessment (full Scoping and Environmental Impact Reporting) process was submitted to the identified competent authority (the North West Department of Economic Development, Environment, Conservation and Tourism). The Department subsequently registered the project and the formal process was thereby initiated. All the findings from the scoping process are included in this report.

The Chubby Chick rendering facility has been operational since 1997 and has a Sterilisation License in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947). The facility does, however, not have an Atmospheric Emission License or Water Use License and therefore this EIA process has been initiated. A separate Waste Management License Application process is also underway at the National Department of Environmental Affairs.

This Scoping Report is divided into the following parts:

- Part 1: Introduction (including a description of the project);
- Part 2:Nature and extent of the environment affected by activity;
- Part 3:Applicable legislation and guidelines;
- Part 4: Public Participation Process;
- Part 5:Need and desirability for the project;
- Part 6: Description of alternatives;
- Part 7:Identification of anticipated environmental Impacts;
- Part 8: Plan of study for EIA; and
- Part 9: Conclusion.

1.1 Process followed

1.1.1 Objectives of the scoping process and the Scoping Report

Scoping is the procedure that is undertaken during the initial stages of the Planning Phase of a project and is used to determine the extent of, and approach to, an Environmental Impact Assessment (EIA). This process is required for the proposed project in terms of the NEMA, 1998, and the EIA Regulations, 2010.

The objectives of the Scoping Process are to:

- Provide an opportunity for the Applicant, relevant Authorities and Interested and Affected Parties (I&APs) to exchange information and express their views and concerns regarding the project before the EIA is undertaken. This is a requirement in terms of Regulation 54 of the EIA Regulations, dated 2010;
- Focus the study on identifying relevant anticipated impacts, issues and concerns, as well as reasonable alternatives (as per Regulation 28 of the EIA Regulations, 2010),and knowledge gaps, to ensure that the resulting EIA is useful to the Authorities for decision-making, and addresses the impacts, issues and concerns as identified; and
- Facilitate an efficient assessment process that optimises time, resources and costs.

1.1.2 Methodology applied to conducting the scoping process

The figure below indicates the methodology that was applied in conducting the scoping process.

Application- and Scoping Phases	Public Participation and Stakeholder Consultation
• EIA Application form • Project Reference number • Draft Scoping Report and EIA Plan of Study	• Initial communication with applicant and desktop assessment • Submission of Application form to responsible Government Authority (NWDEDECT) • Registration of project by responsible Government Authority (NWDEDECT) • Development and maintenance of I&AP and Stakeholder register / database • Background Information Document distributed, newspaper advertisement and site notices placed • Telephonic and electronic notifications • I&APs and Stakeholder comments recorded

Figure 1: Methodology applied to conducting the scoping process

1.1.3 The Scoping Report in terms of the requirements of NEMA, 1998

Regulation 28(1) of the EIA Regulations, 2010, under the NEMA, 1998, lists aspects that must be included in Scoping Reports. The table below indicates the parts where information has been provided as part of this Scoping Report.

Table 1: The Scoping Report in terms of the EIA Regulations, 2010, under the NEMA, 1998

Regulation No		Description	Report Part
R543 Regulation 28(1)(a)		Details of the Environmental Assessment Practitioner (EAP).	Part 1& Appendix F
	(i)	Details of the EAP who prepared the report.	
	(ii)	Details of the expertise of the EAP to carry out scoping procedures.	
R543 Regulation 28(1)(b)	(b)	A description of the proposed activity.	Part 1
	(c)	Any feasible and reasonable alternatives that have been identified.	Part 6
R543 Regulation 28(1)(c)		A description of the property on which the activity is to be undertaken and the location of the activity on the property.	Part 1
R543 Regulation 28(1)(d)		A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.	Part 2
R543 Regulation 28(1)(f)		An indication of all legislation and guidelines that have been considered in the preparation of the scoping report.	Part 3
R543 Regulation 28(1)(g)		A description of environmental issues and potential impacts, including cumulative impacts that have been identified.	Part 7
R543 Regulation 28(1)(h)		Details of the public participation process conducted in terms of Regulation 27(a).	Part 4 & Appendix E
	(i)	Steps taken to notify potentially interested and affected parties of the application.	
	(ii)	Proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the application have been displayed, placed or given.	
	(iii)	A list of all persons or organisations that were identified and registered in terms of Regulation 55 as interested and affected parties in relation to the application.	
R543 Regulation 28(1)(h)	(iv)	A summary of the issues raised by interested and affected parties, the date of receipt of, and the response of the EAP to those issues.	Part 4 & Appendix E
R543 Regulation 28(1)(i)		A description of the identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and communities that may be affected by the activity.	Part 6

Regulation No		Description	Report Part
R543 Regulation 28(1)(j)		A description of the need and desirability of the proposed activity.	Part 5
R543 Regulation 28(1)(k)		Copies of any representations and comments received in connection with the application or the scoping report from interested and affected parties.	Part 4 & Appendix E
R543 Regulation 28(1)(l)		Copies of any minutes of any meetings held by the EAP with interested and affected parties and other role players that record the views of the participants.	Part 4 & Appendix E
R543 Regulation 28(1)(m)		Any responses by the EAP to those representations and comments and views.	Part 4 & Appendix E
R543 Regulation 28(1)(n)		A plan of study for Environmental Impact Assessment (EIA), which sets out the proposed approach to the EIA of the application.	Part 8
	(i)	A description of tasks that will be undertaken as part of the EIA process including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken.	
	(ii)	An indication of the stages at which the competent authority will be consulted.	Part 4 & Part 8
	(iii)	A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity.	Part 7 & Part 8
	(iv)	Particulars of the public participation process that will be conducted during the EIA process.	Part 4 & Part 8
R543 Regulation 28(1)(o)		Any specific information required by the competent authority.	N/A*
R543 Regulation 28(1)(p)		Any other matters required in terms of Section 24(4) (a) and (b) of the Act.	N/A*

* No specific requests have been received from the competent authorities to date.

The EIA process will be undertaken subsequent to the scoping process and will be conducted in accordance with Regulation 31 of the Environmental Impact Assessment Regulations, 2010, under the NEMA, 1998. The EIA document for the project will include detailed information pertaining to anticipated or potential impacts that may be associated with the project.

1.2 Details of the project applicant

Name of Applicant	Cycle City (Pty) Ltd. – Trading as Chubby Chick Enterprises
Postal Address	PO Box 288, Potchefstroom, 2520

Telephone No.	018 285 2048
Fax No.	018 297 3573
Farm name and portion on which the activities take place	Portion 198 of the farm Wilgeboom 458 IQ
Title Deed Number and 21 Digit Code	T0IQ00000000045800198
Co-ordinates of operation	26°47'16.80"S; 27°08'58.39"E

1.3 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 & experience to conduct the EIA***	**Responsibility**
Mr. H.L. de Villiers	• Bsc. (Hons) (PU for CHE) MSc.(UP) • More than 10 years' experience conducting Environmental Impact Assessments and Waste Management License Applications	EIA Project Leader and Co-ordinator
Ms. Lizette Crous	• Post Graduate Certificate Environmental Management (University of London) • 3 years' experience conducting Environmental Impact Assessments and Waste Management License Applications	EAP

* Detailed CVs for the project team are attached (Appendix F).

Lourens de Villiers – Project Director

Lourens holds a M.Sc. Water Resource Management degree from the University of Pretoria and has ten years' experience in the environmental field. He specialises in compilation and management of Environmental Impact Assessments (EIA's) for commercial, industrial, agri-industrial, mining and

residential developments. Lourens is also actively involved in third party ISO 14001 certification audits in the mining and industrial sectors.

Lizette Crous – Environmental Practitioner

Lizette obtained a B.Sc. degree specialising in Biodiversity and Ecology from the University of Stellenbosch. She is currently completing a M.Sc. in Environmental Management at the University of London and is responsible for Waste Management License Applications and non-mining Environmental Impact Assessments (EIAs) at Shangoni.

1.4 Current situation

The rendering industry, as a whole, has a positive impact on the environment by converting highly-perishable poultry waste that cannot be consumed by humans, into a valuable commodity (COWI Consulting Engineers and Planners AS, 2000) that can be used in the production of animal feeds. This decreases the amount of waste that needs to be disposed of at local landfill/hazardous waste disposal sites and also eliminates the possibility of decomposing waste polluting the soil, surface- and ground- water of the area.

Rendering facilities may, however, also produce negative environmental impacts such as:

- Atmospheric pollution;
- Water pollution;
- Soil degradation; and
- Resource consumption.

The Chubby Chick rendering facility is an independent rendering facility situated on Portion 198 of the farm Wilgeboom 458 IQ, North West Province. The facility is an inedible rendering plant, i.e. it produces a product that is not intended for human consumption.The facility has been operational since 1997 and has a Sterilisation License in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947).

The facility currently receives chicken waste [blood, feathers, chicken pieces, fat and intestines (mala)] from the two Chubby Chick abattoirs in Potchefstroom and also receives chicken mortalities from the Fourie's Poultry (part of Cycle City) chicken farms on a daily basis. The facility operates 24/7 and processes the poultry waste into a high-protein poultry by-product meal (PBPM). A maximum of 60 tons of poultry waste is processed per day. The facility has a Sterilisation License in terms of the Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act No. 36 of 1947) for its high-protein, poultry by-product meal. The meal is used as a protein source in the production of animal feeds. The current by-product meal production process, a batch rendering process, is shown in Figure 2 and summarised below:

- The facility has two sections separated by a concrete partition. The “dirty” area is from the waste unloading area to where the waste is loaded into the pressure cooking vessels. The “clean” area is from where the cooked product is loaded out of the cooking vessels to where the finished product is bagged.
- Chicken waste (feathers, chicken pieces, fat and intestines) from the Chubby Chick abattoirs and mortalities from their chicken farms are brought to the rendering facility (hereafter referred to as “the facility”). The waste is stored within the rendering facility building, in the intake area.
- Blood is brought from the abattoirs in a tanker and is pumped into a 10m^3 holding tank at the rendering facility.
- Waste and blood is loaded into the three pressure cooking vessels. Steam is generated in two coal-fired boilers for use in the sterilisation process. Each boiler has its own stack. Boiler ash is removed from the site to a disposal facility.
- Within the cooking vessels, a vacuum is created and the waste is cooked and sterilised using pressure and high temperatures.
- Steam is vented from the cooking vessels and passes through a collection tank where solids settle out. From there, the air passes through two condensers. Water from the condensers flows to a trench from where the water is pumped into an earth evaporation dam to the north-east of the facility. Non-condensibles, such as VOCs (volatile organic compounds), pass from the condensers to the biofilter. In the biofilter, the air passes through a biofilter medium within which microorganisms reside. The odour causing particles are a food source for the microorganisms and are therefore consumed by the microorganisms. In this system, the odourous atmospheric emissions generated at the rendering facility (during the cooking process) are captured and degraded (consumed).
- The sterilised product is removed from the cooking vessels when the moisture content has decreased to the required percentage.
- The product passes through a hammermill and screen. In this step any unwanted solids, such as stones, are removed from the product.
- The product is then placed into bags and removed from the site to be used in the production of animal feeds.

The rendering facility obtains electricity from Eskom, but also has a backup generator on site. There is also an aboveground, bunded diesel tank.

Water used at the facility for the boilers, washing, toilets and showers is obtained from a borehole on a neighbouring property owned by the applicant (Portion 0 of the farm Vogelzang 467 IQ). The water is pumped to the rendering facility via a pipeline. Wastewater is produced from the following:

- Raw material liquids;
- Cooking condensate;
- Washing and sanitation of the plant;
- Boiler water usage (Sindt, 2006); and

- Sewage and grey water from the shower facilities.

Per day, approximately 55m^3 of wastewater is generated from the rendering process. The wastewater currently flows into trenches and is then pumped to an earth evaporation dam to the north-east of the rendering facility. A new wastewater treatment system is being proposed to effectively treat the wastewater to the Department of Water Affairs' general limit standards for irrigation or discharge into a water resource. A separate system (French drain) has been installed for the handling of the sewage and grey water from the shower facilities. A Waste Management License application is being conducted for all waste related activities onsite.

The facility currently employs 25 people. Employees are houses on the premises in accommodation separate from the rendering facility.

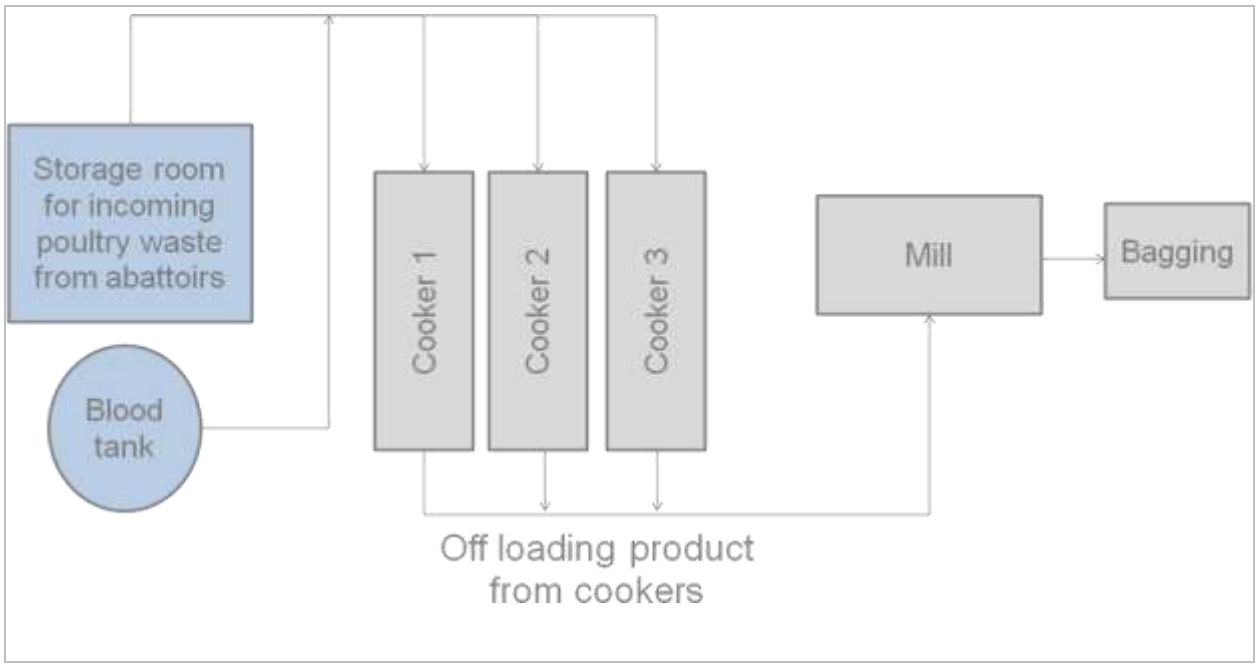


Figure 2: Rendering process flow

Table 2: Land owner of the current operation

Farm Name	Title deed	Owner
Portion 198 of the farm Wilgeboom 458 IQ	T101109/1996	Cycle City (Pty) Ltd. [part of Fourie's Poultry Farms (Pty) Ltd.]

1.5 Proposed activities

The following changes are being proposed for the rendering facility:

- A new treatment system for the wastewater generated at the rendering facility; and
- Possible changes to the existing earth evaporation dam (addition of liners).

The above listed changes require a water use license and registration, together with other water use activities, such as the storage of water, occurring at the facility. The relevant listed activities triggered in terms of the EIA Regulations of 18 June 2010 are given in the table below. The project includes the compilation and submission of a water use license application to the Department of Water Affairs.

The facility also requires an Atmospheric Emission License. The relevant listed activities triggered in terms of the EIA Regulations of 18 June 2010 are given in the table below. The Atmospheric Emission License will be submitted to the Dr. Kenneth Kaunda District Municipality or the North West Department of Economic Development, Environment, Conservation and Tourism.

Table 3: Listed activities in terms of Government Notice No R.545 of 18 June 2010

Number and date of the relevant notice	Activity No	Description
GN. No. R 545, Listing Notice 2 of 18 June 2010	5	The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply.
GN. No. R 545, Listing Notice 2 of 18 June 2010	26	Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), except where such commencement requires basic assessment in terms of Notice of No. R544 of 2010.

1.5.1 Proposed locality

The rendering facility is situated on Portion 198 of the farm Wilgeboom 458 IQ, in close proximity to Potchefstroom.

The site lies within the Tlokwe City Council'sjurisdiction. This local municipality forms part of the Dr. Kenneth Kaunda District Municipality, within the North West province.

Table 4: Administrative and water management boundaries

Province	North West province
District Municipality	Dr. Kenneth Kaunda
Local Municipality	Tlokwe City Council
Ward	2

Department of NW DEDECT Local Office	Potchefstroom
Catchment Zone	C23L
Water Management Area (if applicable)	Upper Vaal Water Management Area

Table 5: Direction and distance to the nearest towns

Closest town	Distance from site	Direction from town to site
Potchefstroom	6.9km	South-east
Parys	31km	West

The site locality map is given below as Figure 3 and is also attached under Appendix A. Site photographs are provided below (refer to Figures 4 to 20 and Appendix B).

1.5.2 Land tenure and use of immediately adjacent land

Land use surrounding the site includes agricultural land, farm houses, a restaurant, go-cart route and tourist accommodation.

Details of adjacent land owners of the rendering facility are listed in the table below. Refer also to Section 4 for more detail regarding the Public Participation Process.

Table 6: Details of adjacent land owners to the site

Owner	Address or property description
F.D. Grimbeek	Portion 6 Wilgeboom
Herman Pretorius	Portion 50 Wilgeboom
J.P. Moolman	Holding 51A Wilgeboom
A.B. Hill	Portion 177 Wilgeboom
P.M. Fouché	Holding 52 Wilgeboom

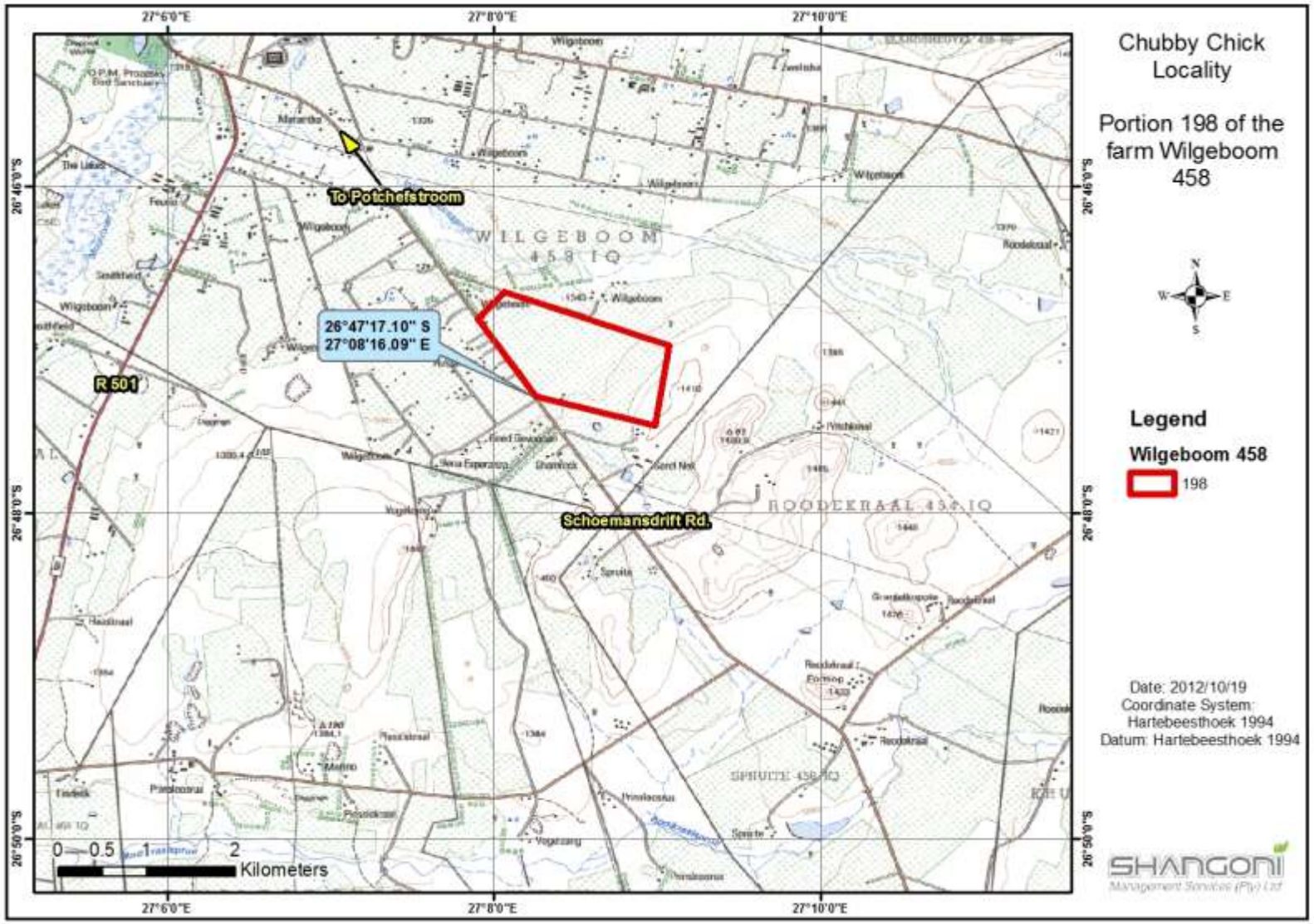


Figure 3: Locality Map

Figure 4: View of the rendering facility from the North-west

Figure 5: JoJo tanks used to store borehole water from an adjacent property

Figure 6: Backup generator and bunded diesel storage tank

Figure 7: The coal storage bunker

Figure 8: One of two coal fired boilers used to generate steam on site

Figure 9: The two broiler stacks

Figure 10: Trucks and tankers are used to bring abattoir waste and mortalities to the facility

Figure 11: The waste intake area

Figure 12: The blood storage tank

Figure 13: The cooking vessels and offloading area (where the product is removed from the vessels)

Figure 14: The condensers

Figure 15: The bagging area

Figure 16: The product storage and dispatch area

Figure 17: Removal of boiler ash

Figure 18: The existing wastewater evaporation pond

Figure 19: Employee housing

1.5.3 Design

Detailed designs for the following will be provided in subsequent reports:

- A new treatment system for the wastewater generated at the rendering facility; and
- Possible changes to the existing earth wastewater evaporation dam (addition of liners).

2. NATURE AND EXTENT OF THE ENVIRONMENT AFFECTED BY 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 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 Geology

As shown in the figure below, the property is underlain by two geological units. The eastern part of the site, where the rendering facility is located, is underlain by siliciclastic rocks of the Magaliesberg Formation, Pretoria Group. The central and western portion of the property is underlain by fine-grained felsic rocks of the Vaalian Erathem.

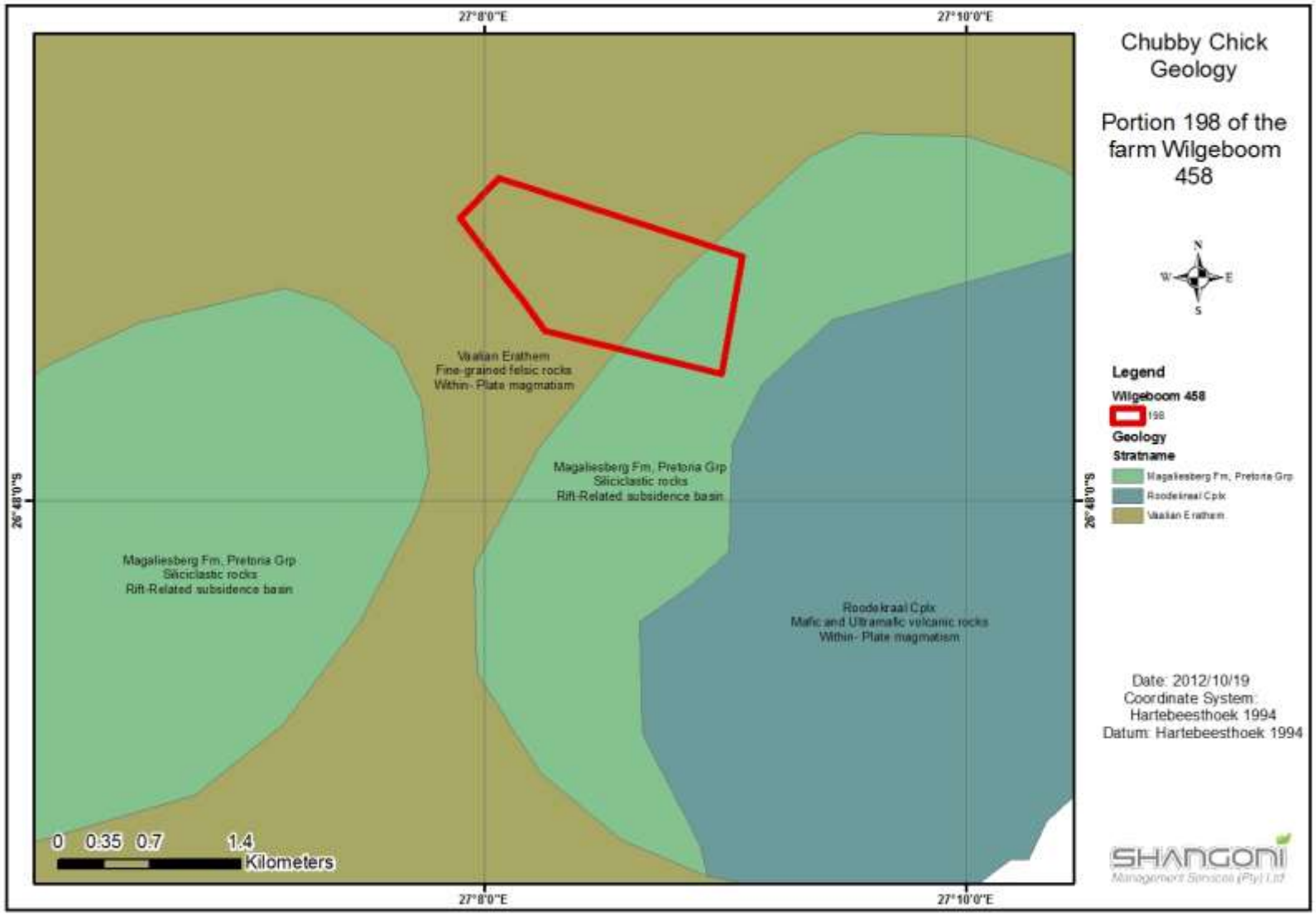


Figure 20: Geology of the site

2.2 Regional climate

2.2.1 Rainfall

The site lies within a warm temperate region with strongly seasonal summer rainfall and very dry winters (Mucina & Rutherford, 2006). The minimum and maximum long-term temperature range for the site is given in the figure below.

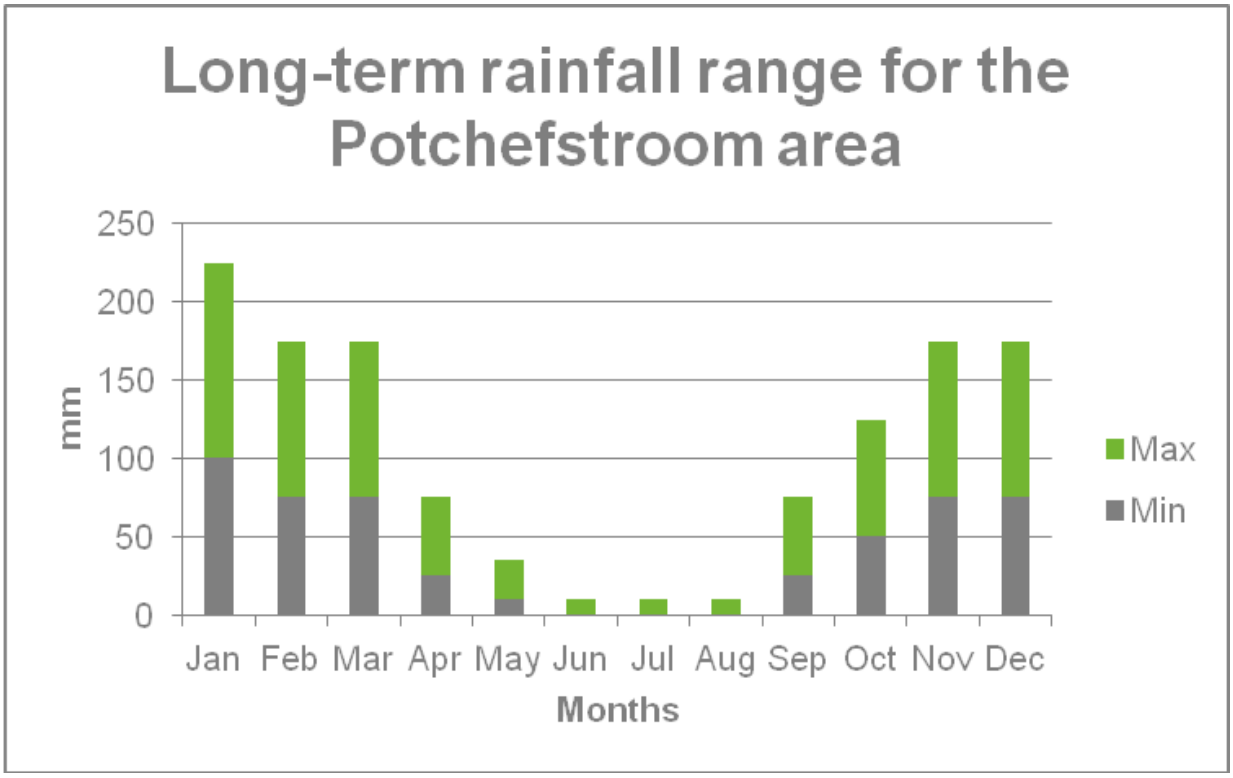


Figure 21: Long-term rainfall range for the area (AGIS Comprehensive Atlas, 2007)

2.2.2 Temperature

Summer temperatures in the area are high and severe frost is frequently experienced during winter months. The minimum and maximum temperature range for the site is given in the figure below.

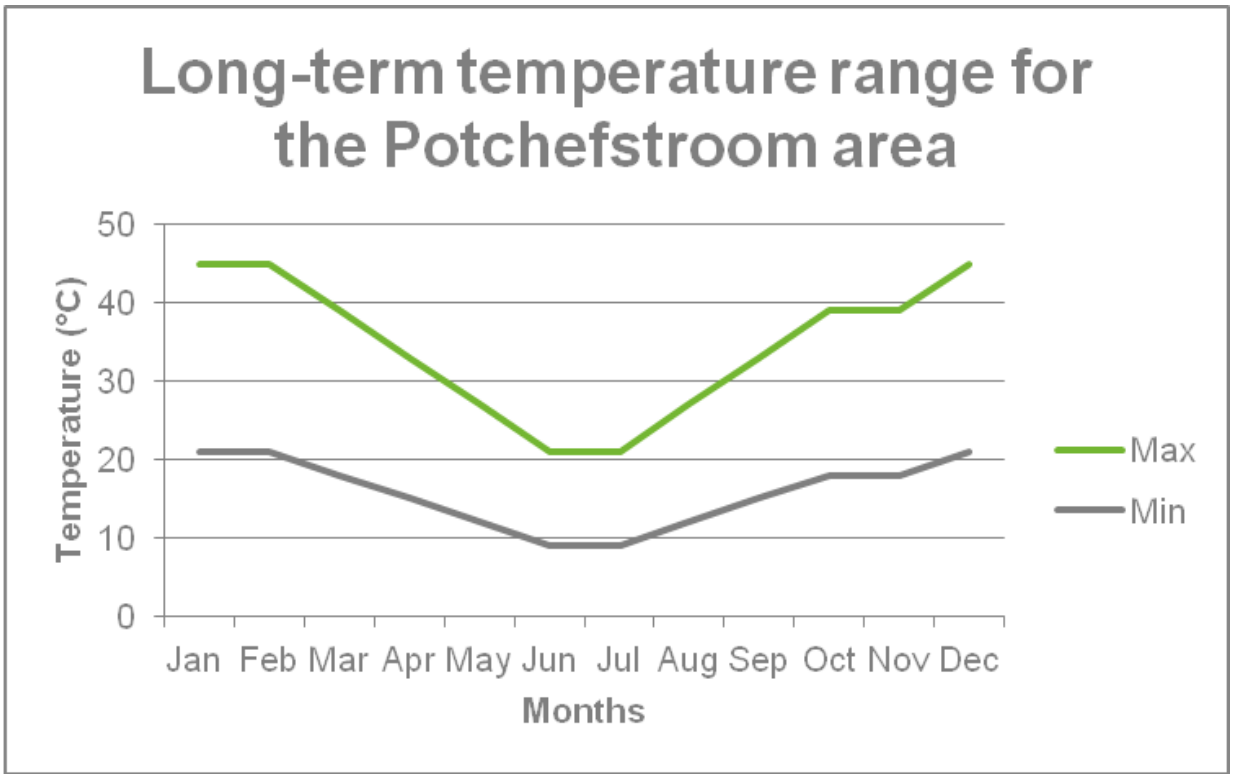


Figure 22: Long-term temperature range for the area (AGIS Comprehensive Atlas, 2007)

2.2.3 Wind

The site is approximately 6.9km from Potchefstroom. Wind data from the Potchefstroom weather station has therefore been used for this application. The wind roses are given in the figures below (www.windfinder.com).

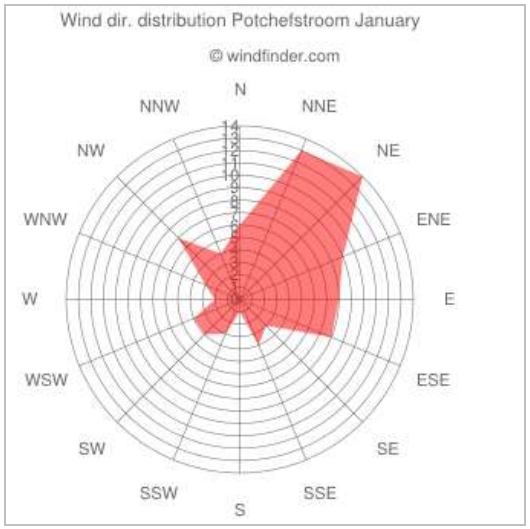


Figure 23: Wind Rose – January

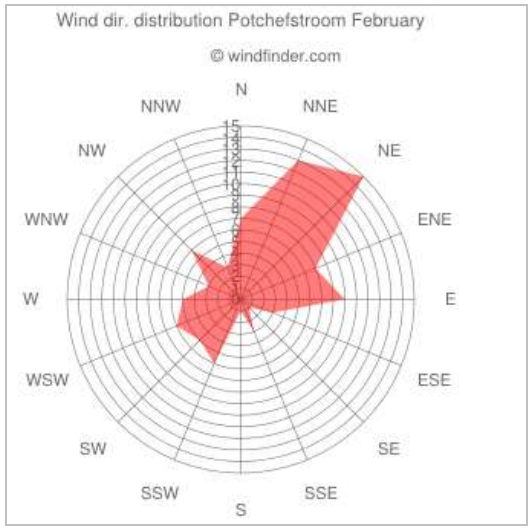


Figure 24: Wind Rose – February

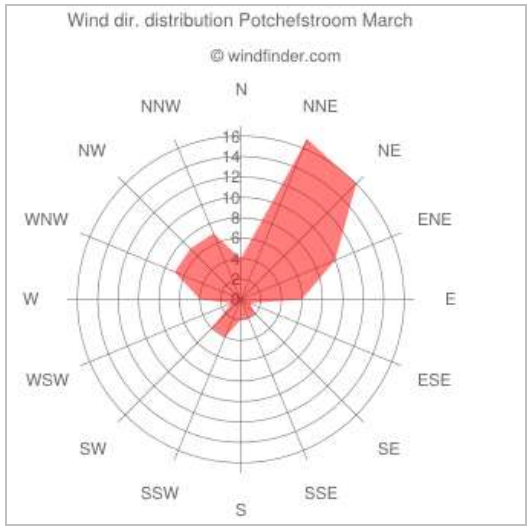


Figure 25: Wind Rose – March

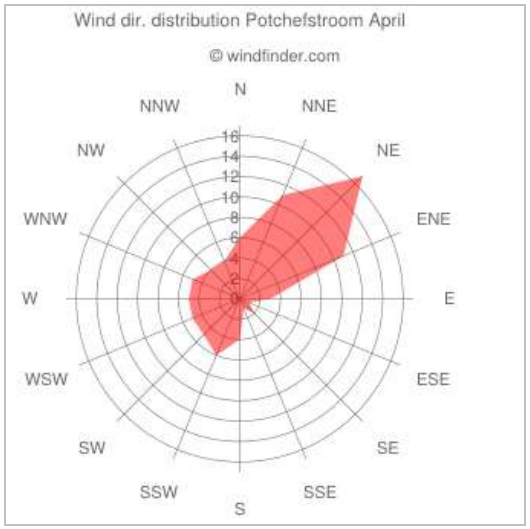


Figure 26: Wind Rose – April

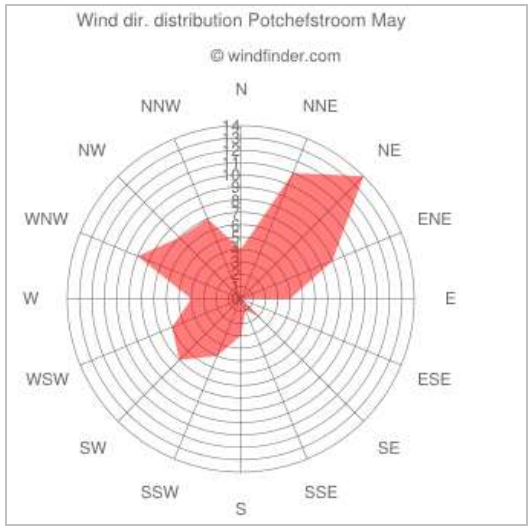


Figure 27: Wind Rose – May

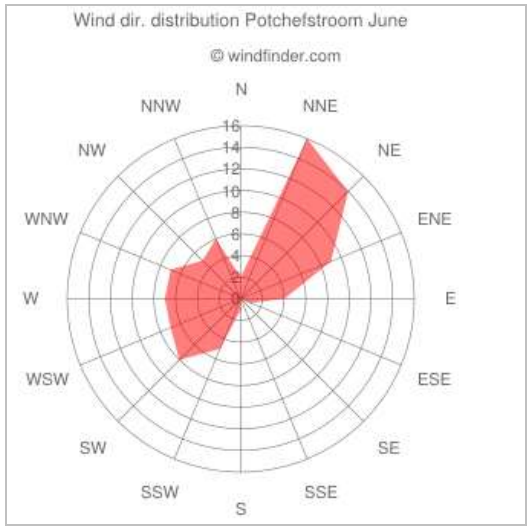


Figure 28: Wind Rose – June

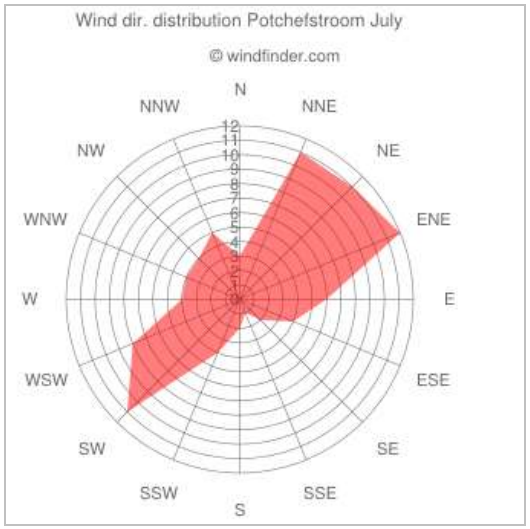


Figure 29: Wind Rose – July

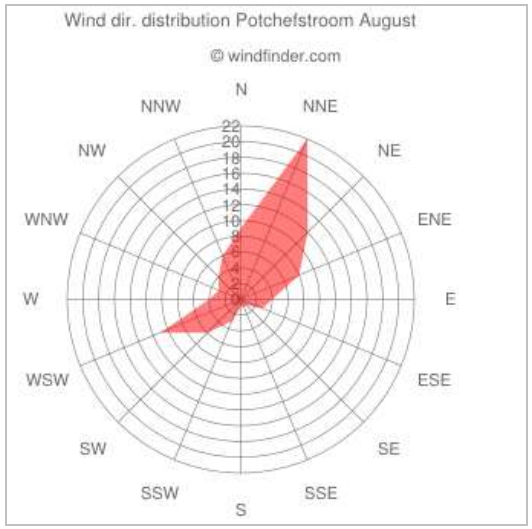


Figure 30: Wind Rose – August

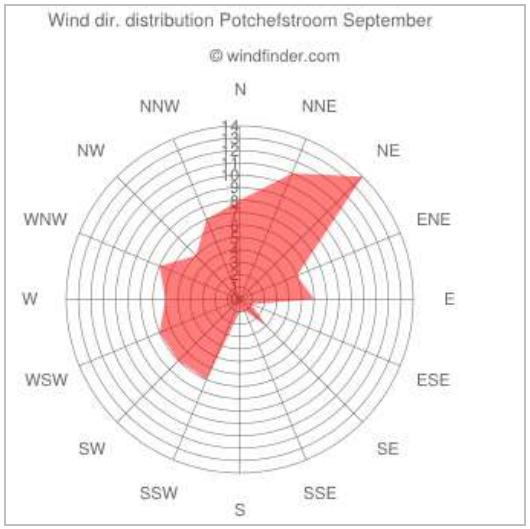


Figure 31: Wind Rose – September

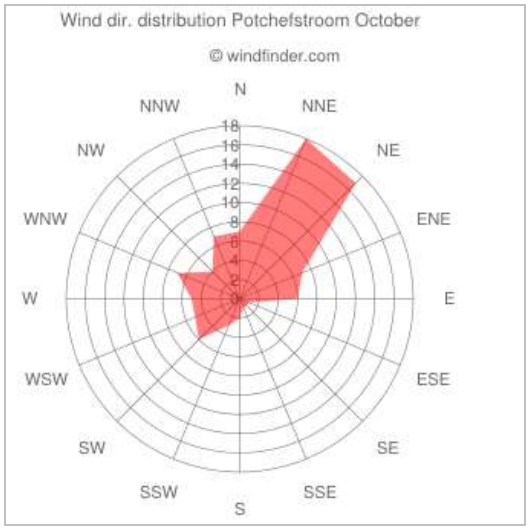


Figure 32: Wind Rose – October

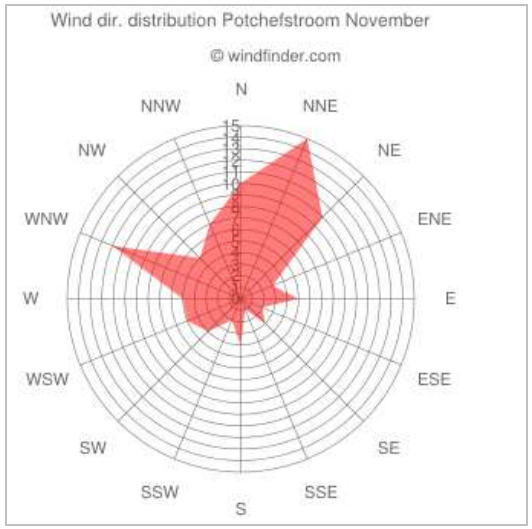


Figure 33: Wind Rose – November

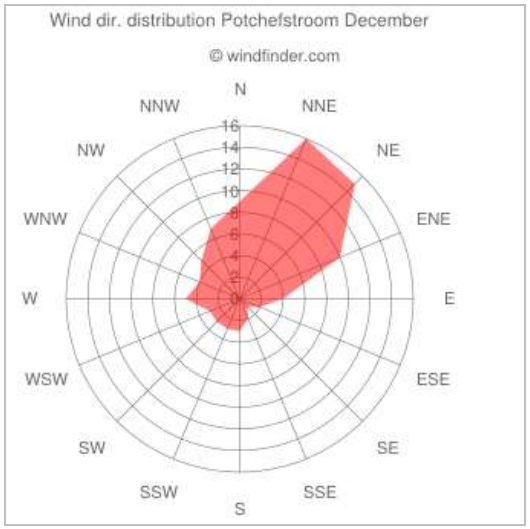


Figure 34: Wind Rose – December

2.3 Topography

The Rand Highveld grasslands are generally found in highly variable landscapes with ridges that are slightly elevated above surrounding undulating, sloping plains (Mucina & Rutherford, 2006). As can be seen in the figure below, the ground slopes downwards from the eastern to western part of the property. The elevation is between 1 398 metres above sea level on the eastern boundary of the site and 1 348 metres above sea level on the western boundary of the site. The rendering facility itself is situated at an elevation of 1 387metres above sea level. The slope of the site is up to 5% (AGIS, 2007).

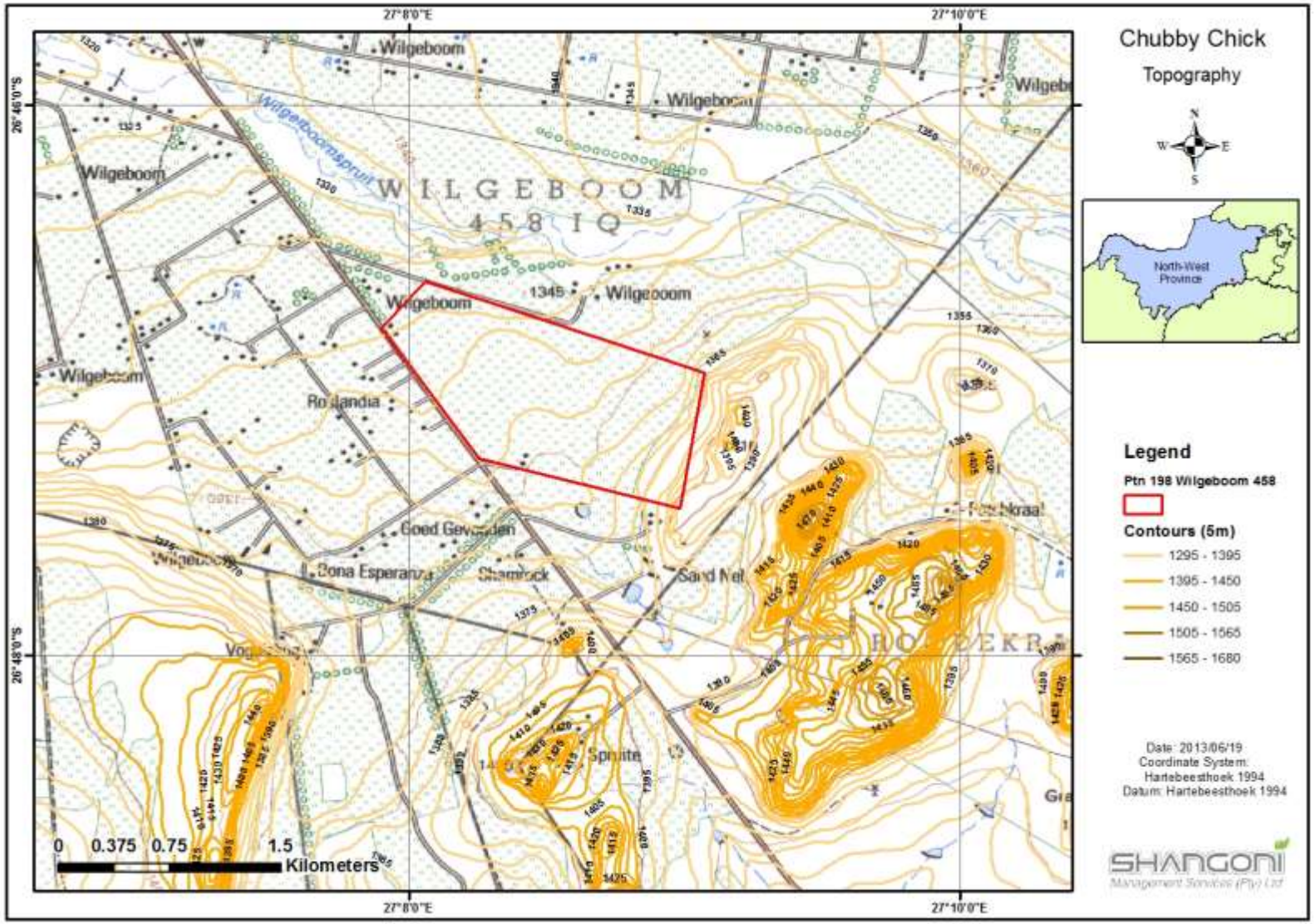


Figure 35: Topography of the site

2.4 Soils

The soil type of the site is S17, as shown in the figure below. This soil type is an association of soil classes 1 to 4 and consists of undifferentiated, structureless soils. These soils have favourable physical properties, but may have restricted soil depths, high erodibility, low base status, and/or excessive or imperfect drainage. The soil depth is generally between 450 and 750mm, the clay content is between 15 and 35% and the soils are euthrophic (high in nutrients) (AGIS, 2007).

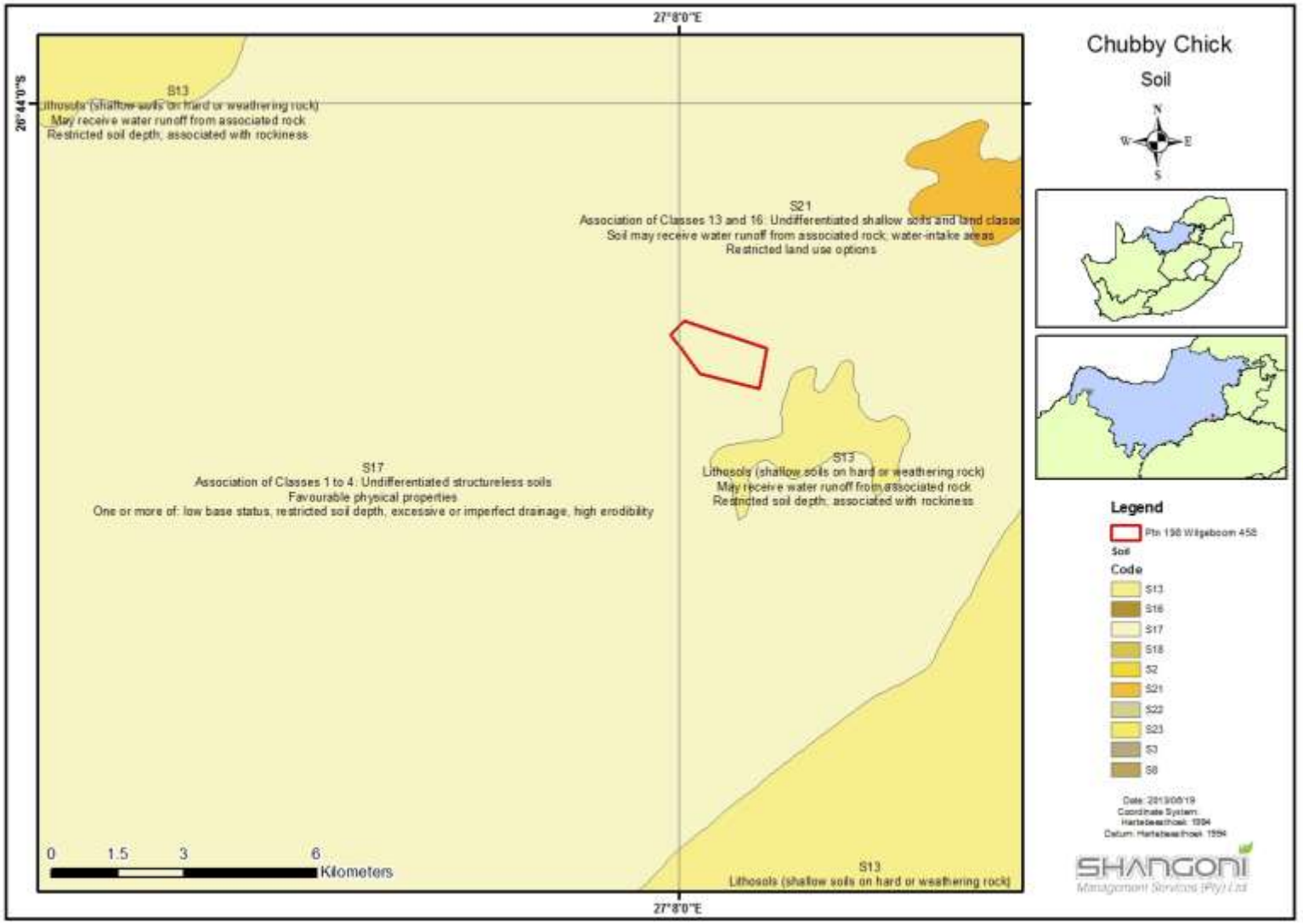


Figure 36: Soil type of the site

2.5 Land use and land capability

The property is zoned as Agriculture (72) Business land and the Chubby Chick rendering facility is situated on the property, together with a number of crop fields. As a result of the previously mentioned land uses, few natural areas remain on the property.

According to the AGIS Comprehensive Atlas (2007) the land capability of the property is “moderate potential agricultural land”. The dominant land use surrounding the property is cultivated land, with farm houses, a restaurant, go-cart route and tourist accommodation also present.

2.6 Vegetation

2.6.1 Vegetation type

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

The property lies within the Grassland biome region. The Grassland Biome is found mainly on the high central plateau of South Africa and the inland 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 for maintaining the structure and biodiversity of this biome. Grasslands are unique ecosystems with rich and often highly specialised animal life, both above and belowground. 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.

As shown in the figure below, the specific grassland type is “Rand Highveld Grasslands”. These grasslands occur in the Gauteng, North-West, Free State and Mpumalanga Provinces at an altitude of 1 300 to 1 635 metres above mean sea level, but can occur as high as 1 760 metres above mean sea level.

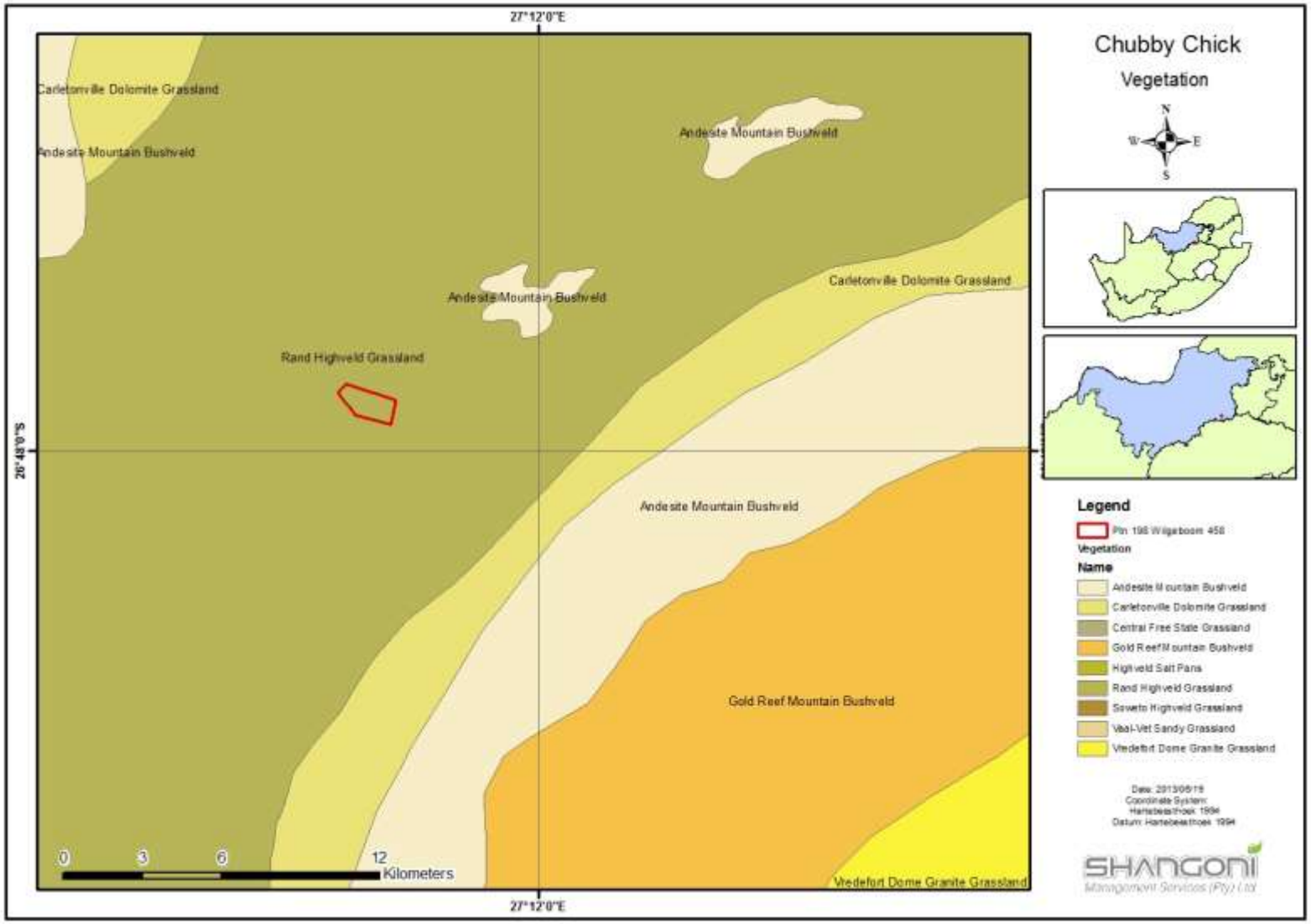


Figure 37: Vegetation type at the site

2.6.2 Dominant species

Within the Rand Highveld grasslands, the species-rich, sour, wiry grasslands alternate with low, sour shrubland on steeper slopes and rocky outcrops. On the plains, the genera *Themeda, Eragrotis, Heteropogon and Elionurus* are most common. A typical feature is the high diversity of herbs, many of which belong to the Asteraceae. Rocky ridges and hills have sparse (savannoid) woodlands with *Protea caffra* subsp. *caffra*, *P. welwitschii, Acacia caffra* and *Celtis africana*, together with a rich suite of shrubs, among which the genus *Rhus* (especially *Rhus magalismonata*) is prominent.

Important, biologically important and endemic taxa within the Rand Highveld grasslands are given in Appendix D. The natural grasslands are considered endangered with only 1% conserved in statutory and private conservation areas. The target for conservation is 24% (Mucina & Rutherford, 2006).

2.6.3 Endangered or rare species

The following table shows the IUCN (International Union for Conservation of Nature and Nature Resources) Red List of Threatened plant species found in the North West Province. Importantly, these species are not necessarily present at the specific project site. The following abbreviations are used: EN: Endangered; VU: Vulnerable; NT: Near Threatened; and LC: least concern.

Table 7: IUCN Red List of threatened plant species (IUCN, 2013)

Scientific name	Common name	Red List Status
Agrostis lachnantha	-	LC
Aloe peglerae	-	EN
Aloe zebrina	-	LC
Aponogeton desertorum	-	LC
Asparagus aethiopicus	-	LC
Bergia polyantha	-	LC
Bolboschoenus glaucus	Tuberous Bulrush	LC
Bulbine favosa	-	LC
Cladium mariscus	Great Fen-Sedge, Saw Grass, Fen Sedge	LC
Commelina benghalensis	Day Flower	LC
Cyperus difformis	Smallflower Umbrella Sedge	LC
Cyperus glaucophyllus	-	LC
Cyperus rotundus	Nut-grass	LC
Cyperus turrillii	-	LC
Epilobium hirsutum	Great Willowherb	LC
Erythrophysa transvaalensis	-	LC
Frithia pulchra	-	VU
Heteranthera callifolia	Mud plantain	LC

Indigofera daleoides	-	LC
Indigofera hofmanniana	-	LC
Indigofera melanadenia	-	LC
Juncus bufonius	Toad Rush	LC
Juncus effusus	Soft Rush	LC
Juncus inflexus	Hard Rush	LC
Ludwigia octovalvis	-	LC
Ludwigia palustris	Hampshire-Purslane	LC
Mimulus gracilis	-	LC
Myriophyllum spicatum	Spiked Water-milfoil, Eurasian Water Milfoil	LC
Najas graminea	Ricefield Waternymph	LC
Nuxia glomerulata	-	LR/NT
Osteospermum muricatum	-	LC
Paspalum scrobiculatum	Kodo Millet	LC
Persicaria salicifolia	-	LC
Persicaria senegalensis	-	LC
Potamogeton crispus	Curled Pondweed	LC
Potamogeton nodosus	Loddon Pondweed	LC
Potamogeton octandrus	-	LC
Potamogeton trichoides	Hairlike Pondweed	LC
Ranunculus multifidus	-	LC
Samolus valerandi	Brookweed	LC
Sebaea pentandra	-	LC
Sporobolus discosporus	-	LC

2.7 Animal life

2.7.1 Commonly occurring species

For a full list of commonly occurring species in the North West Province or specifically in the vicinity of the project site please refer to Appendix D.

2.7.2 Endangered species

The following table shows the IUCN Red List of Threatened animal species that are found in the North West Province. Importantly, these species are not necessarily present at the specific project site. The following abbreviations are used: EN: Endangered; VU: Vulnerable; NT: Near Threatened; and LC: least concern.

Table 8: IUCN Red List of threatened animal species (IUCN, 2013)

Scientific name	Common name	Red List Status
Mammals		
Graphiurus ocularis	Spectacled Dormouse, Namtap	LC
Pronolagus rupestris	Smith's Red Rock Hare, Smith's Red Rockhare	LC
Mystromys albicaudatus	White-tailed Mouse, White-tailed Rat	EN
Insects		
Nesciothemis farinosa	Black-tailed Skimmer, Black-tailed Dancer, Black-tailed False-skimmer, Common Blacktail	LC
Pseudagrion kersteni	Kersten's Sprite, Powder-striped Sprite	LC
Anax ephippiger	Vagrant Emperor	LC
Anax imperator	Blue Emperor, Emperor Dragonfly	LC
Anax speratus	Orange Emperor	LC
Cacyreus virilis	Alternative Bush Blue, Mocker Blue, Eastern Bush Blue, Mocker Bronze	LC
Capys alphaeus	Orange-banded Protea Butterfly, Protea Scarlet	LC
Crocothemis sanguinolenta	Little Scarlet, Slim Scarlet-darter, Small Scarlet	LC
Diplacodes lefebvrii	Black Percher	LC
Frankenbergerius forcipatus	-	DD
Ischnura senegalensis	Common Bluetail, Marsh Bluetail	LC
Orthetrum chrysostigma	Epaulet Skimmer	LC
Orthetrum julia	Julia Skimmer	LC
Orthetrum trinacria	Long Skimmer	LC
Palpopleura deceptor	Deceptive Widow	LC
Pantala flavescens	Globe Skimmer, Wandering Glider, Globe Wanderer	LC
Paternympha narycia	Spotted-eye Brown, Small Hillside Brown	LC
Potamonautes calcaratus	-	LC

Rhyothemis semihyalina	Phantom Flutterer	LC
Sympetrum fonscolombii	Red-veined Darter	LC
Tramea basilaris	Keyhole Glider, Red Marsh Trotter, Wheeling Glider	LC
Trithemis annulata	Violet Dropwing, Violet-marked Darter	LC
Trithemis arteriosa	Red-veined Dropwing	LC
Trithemis furva	Navy Dropwing, Dark Dropwing	LC
Trithemis kirbyi	Orange-winged Dropwing, Rock Dropwing, Kirby's Dropwing	LC
Tuxentius calice	White Pierrot, White Pie	LC
Reptiles		
Acontias percivali	Percival's Legless Skink	LC
Chamaeleo dilepis	Common African Flap-necked Chameleon, Flap-necked Chameleon	LC
Psammophis subtaeniatus	Stripe-bellied Sand Snake	LC
Lygodactylus nigropunctatus	Black-spotted Dwarf Gecko	LC
Millipedes		
Doratogonus levigatus	-	LC
Doratogonus rugifrons	-	LC
Snails and slugs (Gastropoda)		
Biomphalaria pfeifferi	-	LC
Galba truncatula	-	LC
Fish		
Barbus brevipinnis	Shortfin Barb	NT
Barbus motebensis	Marico Barb	VU
Barbus rapax	Southern Papermouth	LC
Barbus sp. nov. 'Waterberg'	Waterberg Shortfin Barb	NT
Barbus trimaculatus	Threespot barb, Threespot barb (FB)	LC

Chetia flaviventris	Canary Kurper	LC
Chiloglanis pretoriae	Shortspine Catlet, Shortspine Suckermouth	LC
Labeo rosae	Rednose Labeo	LC
Labeo umbratus	Moggel	LC
Labeobarbus aeneus	Vaal-orange Smallmouth Yellowfish	LC
Labeobarbus kimberleyensis	Largemouth Yellowfish, Vaal-orange Largemouth Yellowfish	NT
Lestes pallidus	Pale Spreadwing, Pallid Spreadwing	LC
Alopias vulpinus	Common Thresher Shark	VU
Dasyatis chrysonota	Blue Stingray	LC
Deania profundorum	Arrowhead Dogfish	LC
Deania quadrispinosa	Longsnout Dogfish	NT
Isurus oxyrinchus	Shortfin Mako	VU
Labeo capensis	Orange River Mudfish	LC
Crustacea (Malacostraca)		
Potamonautes sidneyi	Natal River Crab, Sidney's River Crab	LC
Potamonautes unispinus	Single-spined River Crab	LC

2.8 Surface water

2.8.1 Catchment areas

The site is situated within the C23L quaternary catchment, in the upper reaches of the Vaal River Catchment (Upper Vaal Water Management Area or WMA).

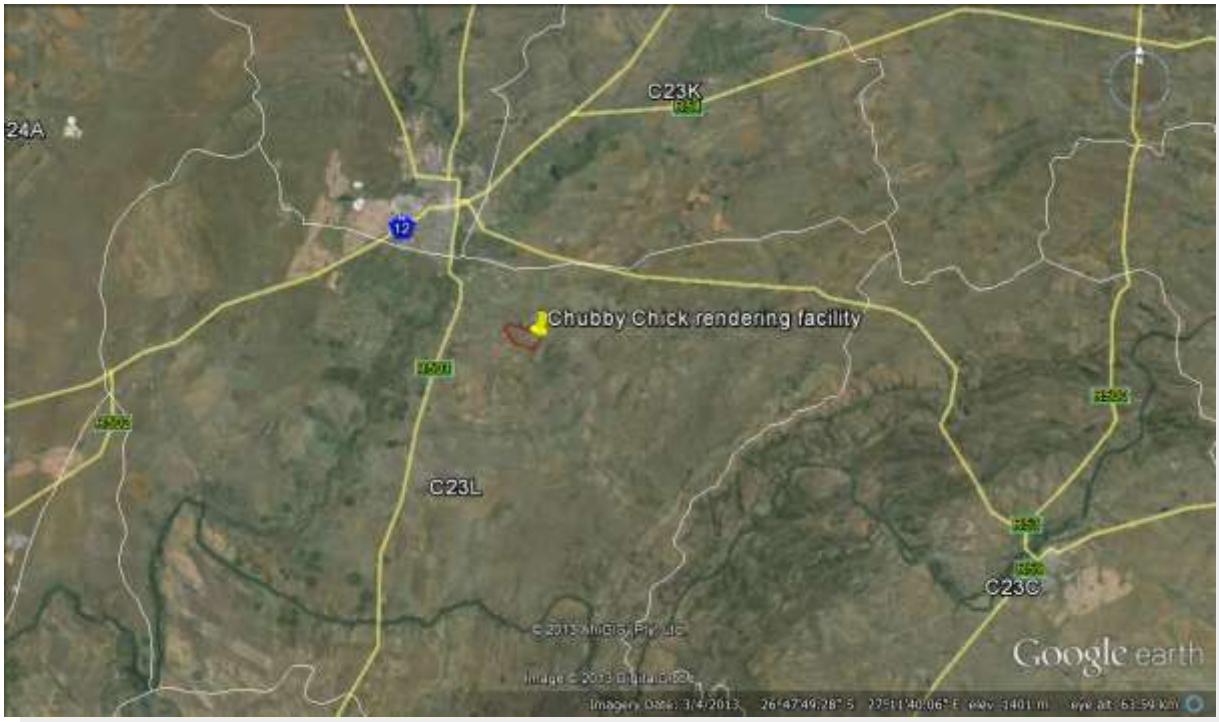


Figure 38: Quaternary catchment of the site

The Mooi River flows to the west of the site (approximately 7km from the rendering plant) and a tributary of the Mooi River, the Rooikraalspruit, flows to the east and south of the site (approximately 4.7km from the rendering plant). The Vaal River flows approximately 15.3km south of the site.

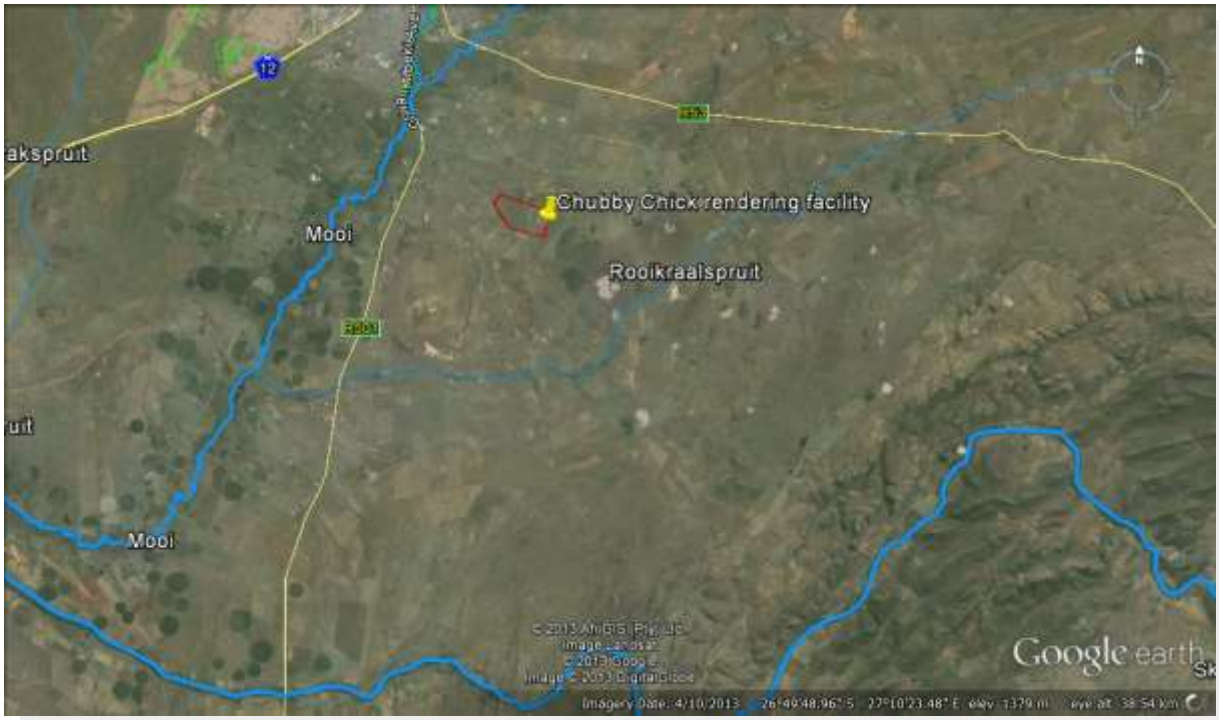


Figure 39: Google Earth image of surface water in the vicinity of the site

2.8.2 Mean annual runoff (MAR)

The Vaal River Catchment covers an area of 192 000km^2 and the mean annual runoff for this area of the catchment is approximately 1 100 million m^3/annum (PDNA *et al*., 2004).

2.8.3 Surface water quantity and use

No surface water abstraction or use occurs on the property.

2.8.4 Water authority

The relevant Water Authority is the Upper Vaal regional office, situated in Pretoria.

2.10 Groundwater

2.10.1 Aquifer type

The aquifer type of the area is d3, intergranular and fractured aquifers with median borehole yields of 0.5-2 litres/second (Geohydrological Map Sheet 2526, 1999). The aquifers are classified as “minor” aquifers (DWA, 2012).

2.10.2 Depth of water tables

The depth to water level is 12.9 metres below ground level and the groundwater recharge is 14mm/annum. Groundwater in the area is mostly used for livestock use, followed by industry use and lastly rural use (DWA, 2010).

No groundwater is abstracted on the property (Portion 198 of the farm Wilgeboom 458 IQ) for use at the rendering facility. Groundwater abstracted on an adjacent property, owned by Chubby Chick/Cycle City, is pumped to the rendering facility for domestic and industrial use.

2.10.3 Boreholes and springs

No boreholes are used at the rendering facility.

2.10.4 Groundwater quality

The mean TDS (Total Dissolved Solids) found in groundwater in the area is 242mg/litre (DWA, 2010).

2.10.5 Storage of water

Groundwater abstracted on an adjacent property (Portion 0 of the farm Vogelzang 467 IQ), owned by Chubby Chick/Cycle City, and pumped to the rendering facility is stored there in five (5) 5 000 litre JoJo tanks. The total amount of water stored at the rendering plant is therefore 25 000 litres at any one time.

2.10.6 Groundwater quantity

Approximately 55m^3 of groundwater is abstracted per day for processing and domestic use at the rendering plant. The groundwater is abstracted from a borehole on an adjacent property (Portion 0 of the farm Vogelzang 467 IQ), owned by Chubby Chick/Cycle City.

2.11 Water Use Licensing

An integrated water use license application will be submitted to the Department of Water Affairs for the following water use license activities:

- Section 21(b): Storage of clean water: Storage of abstracted groundwater in the JoJo tanks;
- Section 21(c): Impeding or diverting the flow of water in a watercourse: The entire rendering facility operation is located within 500 metres of a drainage line and possible wetland;
- Section 21(e): Engaging in a controlled activity, identified as such in Section 37(1): Irrigation of any land with waste or water containing waste generated through any industrial activity or by a waterwork: The irrigation of crops using treated wastewater;
- Section 21(f): Discharge of waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit: Discharge of treated wastewater into the environment;

- Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource: Treatment of wastewater in the proposed wastewater treatment plant; and
- Section 21(i): Altering the bed, banks, course or characteristics of a watercourse: The entire rendering facility operation is located within 500 metres of a drainage line and possible wetland.

Water uses not requiring licensing – Abstraction of Groundwater

According to the GN 399 General Authorisations, dated 26 March 2004, in terms of Section 39 of the NWA, 1998 (Act No. 36 of 1998), a person who takes more than 50 cubic meters of water from a surface water resource or 10 cubic meters of water from a groundwater resource on any given day must register the water use with the responsible authority. As ±55m^3 of groundwater is abstracted per day for use at the rendering plant, a Water Use Registration is required.

According to the GN 399 General Authorisations, dated 26 March 2004, a person who owns or lawfully occupies property registered at the Deeds Office at the date of the notice may on that property or land take groundwater as set out in Table 1.2, outside the areas set out in paragraph 1.2.

According to Table 1.2 of GN 399 General Authorisations, dated 26 March 2004, 75 m^3 of water per hectare per year may be taken from quaternary catchment C23L. The property from which groundwater is abstracted (Portion 0 of the farm Vogelzang 467 IQ) is 825.3ha in size. This means that under the General Authorisations, 61 897.5m^3 of groundwater may be abstracted on the property per annum. This equates to 169.58m^3 of groundwater that may be abstracted per day. As only ±55m^3 is abstracted per day for use at the rendering plant, a license in terms of Chapter 4 of the National Water Act, 1998 (Act No. 36 of 1998) is therefore not required.

2.12 Sensitive landscapes

The majority of the site (rendering facility) and property has been disturbed. Apart from the rendering facility, the property is used for crop production and is therefore in a disturbed state. According to certain topographical maps, a drainage line may run to the west of the rendering facility and it is not known whether any wetland zones are present. The potential drainage line runs through an existing crop production field.

According to the South African National Biodiversity Institute's Biodiversity GIS database, the property lies across two Critical Biodiversity Areas in terms of the North West Province Critical Biodiversity Assessment. The rendering facility itself lies within Critical Biodiversity Area 2. Please refer to the image below.

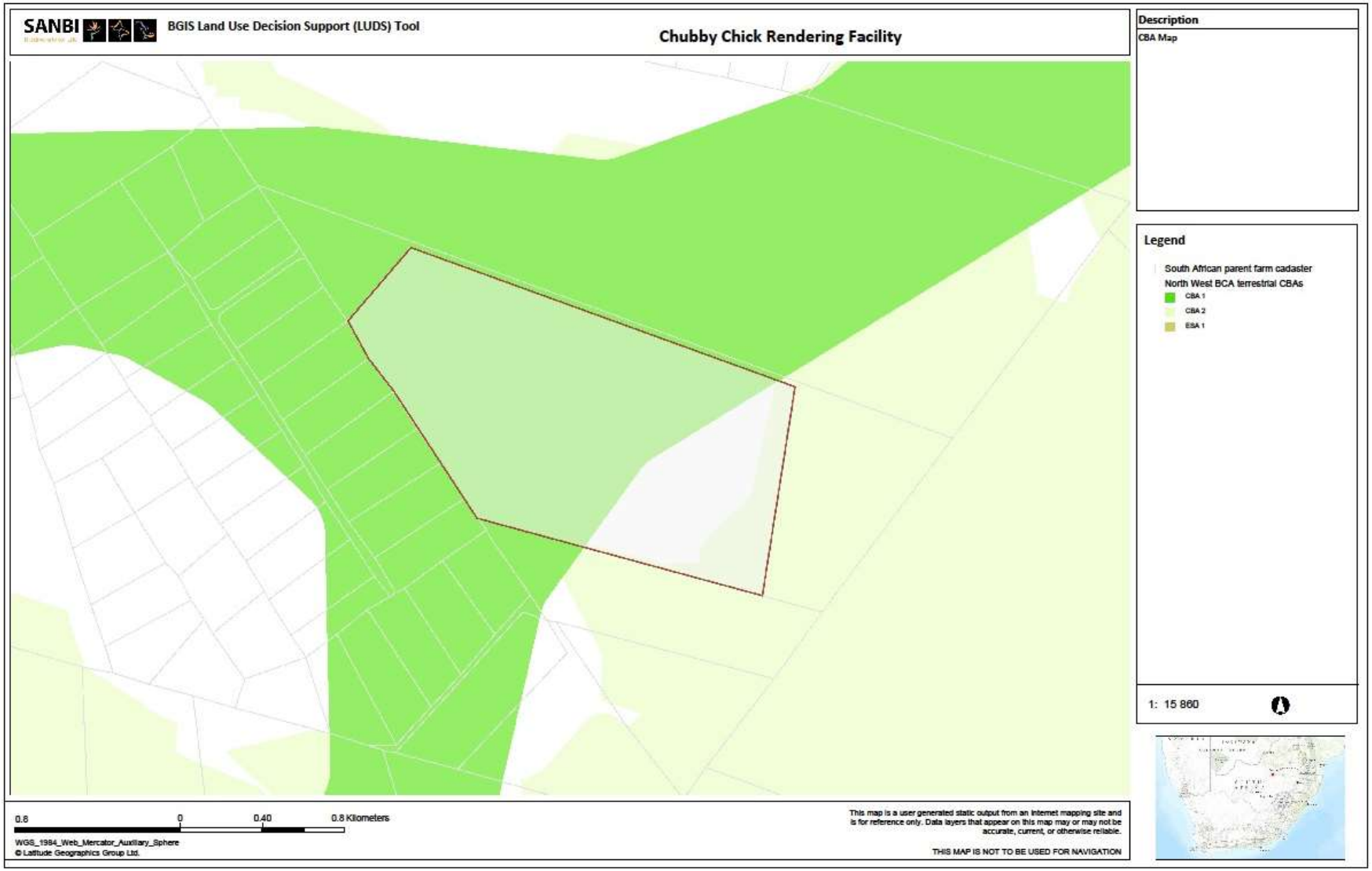


Figure 40: Critical Biodiversity Area Map (SANBI, 2007)

2.13 Sites of archaeological and cultural interest

The area where the rendering facility is situated is in an entirely disturbed state. Shangoni is awaiting comments from the South African Heritage Resources Agency (SAHRA) as to whether a Heritage Impact Assessment is required for the site.

2.14 Air Quality

2.14.1 Emissions and odours

The generation of odour emissions is generally the most significant air quality issue at a rendering facility (Sindt, 2006). Odours are mostly caused by volatile organic compounds (VOCs) and these are the main atmospheric emissions generated at rendering facilities. VOC emissions can be made up of all or some of the following compounds: ammonia, organic sulphides, particulates, hydrogen sulphide, trimethylamine, disulphides, quinoline, C-4 and C-7 aldehydes, C-4 amines, C-3 to C-6 organic acids, dimethyl pyrazine and other pyrazines. Small volumes of the following may also be emitted: ketones, aromatic compounds, C-4 to C-7 alcohols and aliphatic hydrocarbons. Many of the compounds have low odour detection thresholds, with some as low as one (1) part per billion (ppb). Quonoline is the only compound that is classified as a hazardous air pollutant (HAP).

At inedible rendering facilities, like the Chubby Chick facility, the main VOC sources are the cooking vessels and the screw press. Other sources include the loading area, percolator pans (Midwest Research Institute, 1995) and other processing areas that are not completely enclosed. Poultry waste stored at the facility may also generate VOC emissions, though this can be minimised by processing the waste in a timely manner (Midwest Research Institute, 1995).

Coal-fired boilers produce suspended particulate matter; ammonia; nitrogen and sulphur oxides; greenhouse gases (Sindt, G.L., 2006); and may also produce VOCs (Midwest Research Institute, 1995). Water vapour from the cooking vessels is condensed in the condenser and non-condensibles, such as VOCs (volatile organic compounds), pass from the condensers to the biofilter. In the biofilter, the air passes through a biofilter medium within which microorganisms reside. The odour causing particles are a food source for the microorganisms and are therefore consumed by the microorganisms. In this system, the odourous atmospheric emissions generated at the rendering facility (during the cooking process) are captured and degraded (consumed).

Electricity usage at rendering facilities tends to be high. This usage results in indirect emissions (Scope 2 emission) from the generation of electricity at the power stations.

2.14.2 Atmospheric Emission License Application for the rendering facility

An Atmospheric Emission License Application will be submitted to the North West Department of Economic Development, Environment, Conservation and Tourism or the Dr. Kenneth Kaunda District

Municipality for the following listed activity in terms of Government Notice No. 893 of 22 November 2013 (formerly Government Notice No. 248 of 31 March 2010) (List of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage):

19. Category 10: Animal matter processing

Description:	Processes for the rendering cooking, drying, dehydrating, digesting, evaporating or protein concentrating of any animal matter not intended for human consumption.
Application:	All installations handling more than 1 ton of raw materials per day.

a) The following special arrangement shall apply:

(i) Best practice measures intended to minimise or avoid offensive odours must be implemented by all installations. These measures must be documented to the satisfaction of the Licensing Authority.

A biofilter has been installed at the rendering facility to minimise and possibly eliminate the release of odours from the facility.

2.15 Noise

Noise in the area is generated mainly by activities at the rendering facility, farming activities, vehicles travelling on nearby roads, such as the Schoemansdrift Road, and general bird and animal life. The main sources of noise are shown in the figure below.

Figure 41: Main sources of noise in the area

Noise is currently generated at the rendering facility by the vehicles that deliver poultry waste to the facility, those that deliver coal and other raw materials, and those that pick up finished product (high-protein feather meal) from the facility. Noise is also generated through the rendering activities themselves, such as at the condensers. As the facility operates 24 hours per day, noise is continually generated to varying extents.

Sound is inversely proportional to the distance from the source and can get absorbed by buildings and vegetation barriers. Noise intensities (dB) will be at their highest on site and will decrease as one moves away from their sources.

2.16 Visual aspects

The rendering facility is visible from the main road (Schoemansdrift Road) that runs past the site, as shown in the figure below. The facility lies approximately 975 metres from this road. The rendering facility is also visible from open areas surrounding the facility, however, these surrounding properties are mostly owned by the applicant.

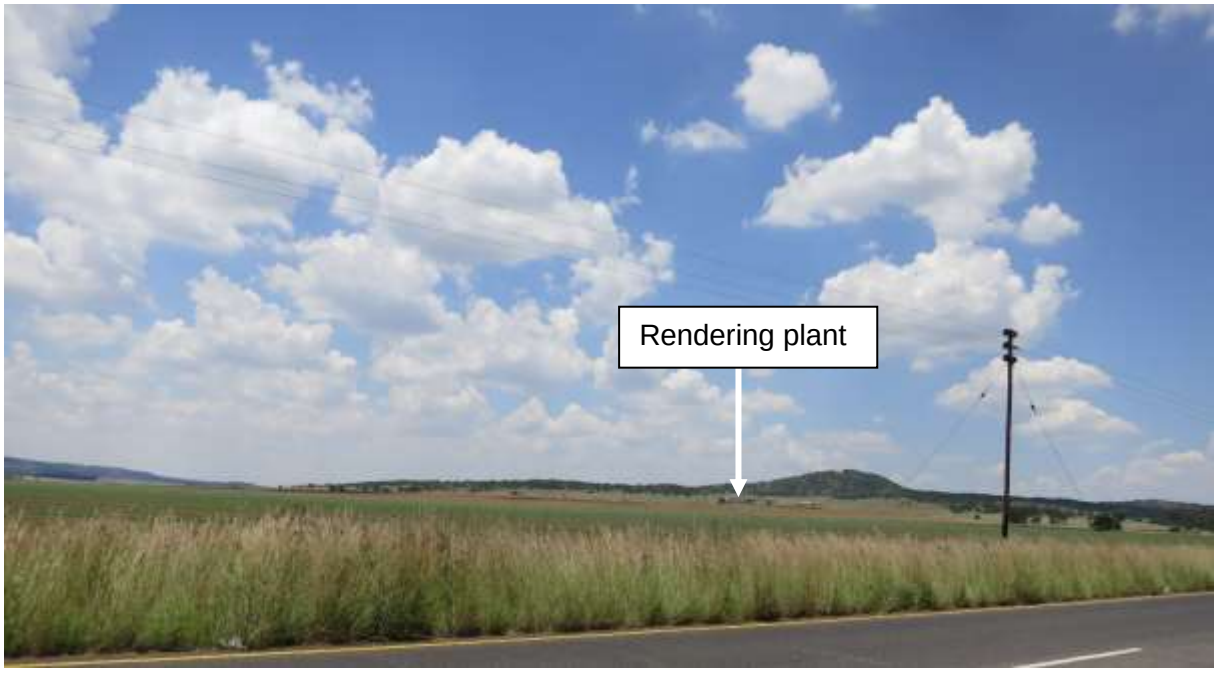


Figure 42: View of the site from the Schoemansdrift Road

2.17 Socio-economic aspects

The site is located within the Tlokwe City Council in the Dr. Kenneth Kaunda District Municipality.

2.17.1 Demography

According to the 2011 census, 162 762 people formed part of 52 537 households in the Tlokwe City Council. The average household size is 3.1 people per household. There are 96.6 men for every 100 women in the municipality and the table below shows the age structure of the municipality.

Table 9: Tlokwe City Council age structure -Census 2011 (Statistics South Africa, 2011).

Age Group	Percentage (%)
Under 15 years of age	25.2
15 to 64 years of age	69.1
Over 65 years of age	5.7
Total population	**100**

2.17.2 Major economic activities

Economic activity in the Tlokwe City Council is driven by agriculture, manufacturing, services and the business sector. The North-West University plays a large role in the provision of services (www.localgovernment.co.za/locals/view/194/tlokwe-local-municipality). The area is also known for diamond mining and the production of maize, sorghum and sunflower (Tlokwe City Council, 2012).

2.17.3 Unemployment and employment

The 2011 census found that the official unemployment rate was 21.6% and the youth unemployment rate (15 to 34 years of age) was 29.5%. The dependency ratio is 44.7 per 100 people between the ages of 15 and 64 years (Statistics South Africa, 2011).

3. APPLICABLE LEGISLATION AND GUIDELINES

The table below provides an indication of the main legislation, policies and / or guidelines applicable to the rendering facility project.

Table 10: Applicable legislation, policies and/or guidelines

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
Laws of General Application		
The Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996).	-	To establish a Constitution with a Bill of Rights for the RSA.
Environment Conservation Act, 1989 (Act No. 73 of 1989, as amended).	North West Department of Economic Development, Environment, Conservation and Tourism.	To control environmental conservation.
National Environmental Management Act, 1998 (Act No. 107 of 1998). National Environmental Management Amendment Act, 2008 (Act No. 62 of 2008).	North West Department of Economic Development, Environment, Conservation and Tourism.	To provide for the integrated management of the environment, and to regulate the 'Duty of Care' Principle.
Promotion of Access to Information Act, 2000 (Act No. 2 of 2000, as amended).	-	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights.
Air Quality and Noise		
National Environmental Management: Air Quality Act (Act No. 39 of 2004).	North West Department of Economic Development, Environment, Conservation and Tourism or the Dr. Kenneth Kaunda District Municipality.	To reform the law regulating air quality to protect the environment by providing reasonable measures for the prevention of pollution. To provide for national norms and standards regulating air quality monitoring, management and control.
Water Management		
National Water Act (NWA), 1998 (Act No. 36 of 1998).	Department of Water Affairs.	To provide for fundamental reform of the law relating to water

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
		resources.
Waste Management		
National Environmental Management: Waste Act (Act No. 59 of 2008).	National Department of Environmental Affairs.	To reform the law regulating waste management in order to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation.
National Environmental Management: Waste Act (Act No 59 of 2008) – Waste Classification and management regulations (GNR. 634 of 23 August 2013).	National Department of Environmental Affairs.	To regulate the classification and management of waste in a manner that supports and implements the provisions of the Waste Act.
Biodiversity		
National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004).	North West Department of Economic Development, Environment, Conservation and Tourism.	To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983).	North West Department of Agriculture and Rural Development.	To provide for control over the utilisation of the natural agricultural resources of South Africa in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants.
National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998).	North West Department of Agriculture and Rural Development.	To reform the law on veldt and forest fires.
Agricultural Pest Act, 1983 (Act No. 36 of 1983, as amended) – GN R276 of 5 March 2004.	North West Department of Agriculture and Rural Development.	To regulate plants, plant products and other regulated articles when imported into South Africa.
Soil and Land Management		
National Environmental Management Act, 1998 (Act No. 107 of 1998). National Environmental	North West Department of Economic Development, Environment, Conservation and Tourism.	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.

Title of legislation, policy or guideline	Administering authority	Aim of legislation, policy or guideline
Management Amendment Act, 2008 (Act No. 62 of 2008).		
Environment Conservation Act, 1989 (Act No. 73 of 1989, as amended).	North West Department of Economic Development, Environment, Conservation and Tourism.	To control environmental conservation.
Heritage and Archaeological Resources		
National Heritage Resources Act No 25 of 1999 (Act No. 25 of 1999, as amended).	South African Heritage Resources Agency	To introduce an integrated and interactive system for the management of the national heritage resources; to promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations.
Protected Areas		
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003, as amended).	North West Department of Economic Development, Environment, Conservation and Tourism.	To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes.
Planning of New Activities		
National Environmental Management Act, 1998 (Act No. 107 of 1998). National Environmental Management Amendment Act, 2008 (Act No. 62 of 2008).	North West Department of Economic Development, Environment, Conservation and Tourism.	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.
EIA Regulations R 543, R 544, R 545 and R 546, dated 18 June 2010) under the NEMA, 1998.	North West Department of Economic Development, Environment, Conservation and Tourism.	To regulate and control the authorisation of certain listed activities.
Government Notice (GN) 718: "List of waste management activities that have, or are likely to have a detrimental effect on the environment", dated 2009.	National Department of Environmental Affairs.	To regulate and control the authorisation of certain waste-related listed activities.

4. PUBLIC PARTICIPATION PROCESS

4.1 Objectives of the Public Participation Process (PPP)

Section 24 of the Constitution of the Republic of South Africa of 1996 guarantees everyone the right to an environment that is not harmful to their health and well-being and to have the environment protected for the benefit of present and future generations. In order to give effect to this right, the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) came into effect.

In terms of Section 24 (4) of NEMA, 1998 and 2008 (as amended) procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, ensure, with respect to every application:

- Coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state;
- That the findings and recommendations of an investigation, the general objectives of integrated management laid down in NEMA, 2008, and the principles of environmental management set out in Section 2 of NEMA, 2008, are taken into account in any decision made by the organ of state in relation to any proposed policy, programme, process, plan or projects, consequences or impacts; and
- Public information and participation procedures that provide all integrated and affected parties, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures.

One of the general objectives of integrated environmental management stipulated in Section 23(2)(d) of NEMA, 2008, is to “ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment.”

The National Environmental Management Principles as stipulated in NEMA, 2008, state that;

- “Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have an opportunity to develop the understanding, skills and capacity necessary to achieve equitable and effective participation, and participation by vulnerable and disadvantage persons must be ensured”.

4.2 Legislation and guidelines followed for the PPP

The public participation process for this project was conducted by Shangoni Management Services in terms of:

- The procedures and provisions in terms of the NEMA (as amended), 2008;
- Chapter 6 of the EIA Regulations of 2010;
- GN 807; Public Participation Guideline in the Environmental Impact Assessment Process, dated October 2012; and
- Other relevant legislation such as the Promotion of Access to Information Act (PAIA), 2000.

Refer to Appendix E for an extract regarding the required public participation process to be followed, taken from the relevant legislation and guidelines.

4.3 Public Participation Process followed

4.3.1 Identification and registration of I&APs and key stakeholders

The table below lists the adjacent landowners identified and notified (via hand delivery of letters) of the project. Copies of the notifications to I&APs have been included in Appendix E.

Table 11: List of adjacent landowners identified and notified

Property owner	Address or property description
F.D. Grimbeek	Portion 6 Wilgeboom
Herman Pretorius	Portion 50 Wilgeboom
J.P. Moolman	Holding 51A Wilgeboom
A.B. Hill	Portion 177 Wilgeboom
P.M. Fouché	Holding 52 Wilgeboom

All organs of state that may have jurisdiction in respect of the project are considered to be registered I&APs.

The following organs of state were notified of the project:

- Tlokwe City Council;
- Dr. Kenneth Kaunda District Municipality;
- North West Department of Agriculture and Rural Development;
- South African Heritage Resources Agency (SAHRA); and
- Department of Water Affairs.

Copies of the notifications to the organs of state have been included in Appendix E, and examples are included in the figures below.

SHANGONI
Management Services (Pty) Ltd

Shangoni Management Services Pty (Ltd)
Reg: 2002/000052/07 VAT: 4810101060

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 74725 Lynnwood Ridge 0040

23 January 2013

NWDEDECT EIA Ref: NWP/EIA/62/2013; DEA EIA Ref: 12/9/11/L1392/7; SMS Ref: FOU-POT-12-05-02

South African Heritage Resources Agency (SAHRA)
PO Box 4637
Cape Town
8000

Attention: Mr. Phillip Hine

NOTIFICATION OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION: CHUBBY CHICK RENDERING FACILITY: APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND WASTE MANAGEMENT-, WATER USE- AND ATMOSPHERIC EMISSION- LICENSES

The Cycle City (Pty) Ltd. (trading as Chubby Chick Enterprises) rendering facility is situated on Portion 198 of the farm Wilgeboom 458 IQ, North West Province. The operation requires environmental authorisation as well as the following licenses: A Waste Management License in terms of section 19 and 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), a Water Use License in terms of Chapter 4 of the National Water Act, 1998 (Act No. 36 of 1998) and an Atmospheric Emission License in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

The rendering facility will require environmental authorisation subject to a full Scoping and Environmental Impact Assessment Process as required by Sections 26 to 35 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 Scoping and Environmental Impact Assessment process. Shangoni has submitted, on behalf of Cycle City (Pty) Ltd. (T/A Chubby Chick Enterprises), an application for environmental authorisation to the North West Department of Economic Development, Environment, Conservation and Tourism for atmospheric emission- and water use- license activities. An application for a waste management license has also been submitted to the National Department of Environmental

Directors RB Hayes J Nel JA van Rooy CJ Potgieter HL de Villiers

Figure 43: Example of the notification letters sent (page 1)

Affairs. An atmospheric emission license application will be submitted to the relevant authority and a water use license application will be submitted to the Department of Water Affairs.

Attached please find a background information document, locality map of the site, and a stakeholder registration form in respect of the application. Should you wish to register as an Interested and Affected party for the above mentioned project, please complete the attached stakeholder registration form and send it to us before or on the 3rd of March 2014. Should you wish to not be part of this EIA process, it will be appreciated if we could receive a written confirmation thereof to enable us to continue with the application.

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
Fax 2 E-mail: 086 643 5360
Fax: 012 807 1014
Online Participation: Go to www.shangoni.co.za and click on Public Documents.

Regards,

Lizette Crous
Environmental Assessment Practitioner

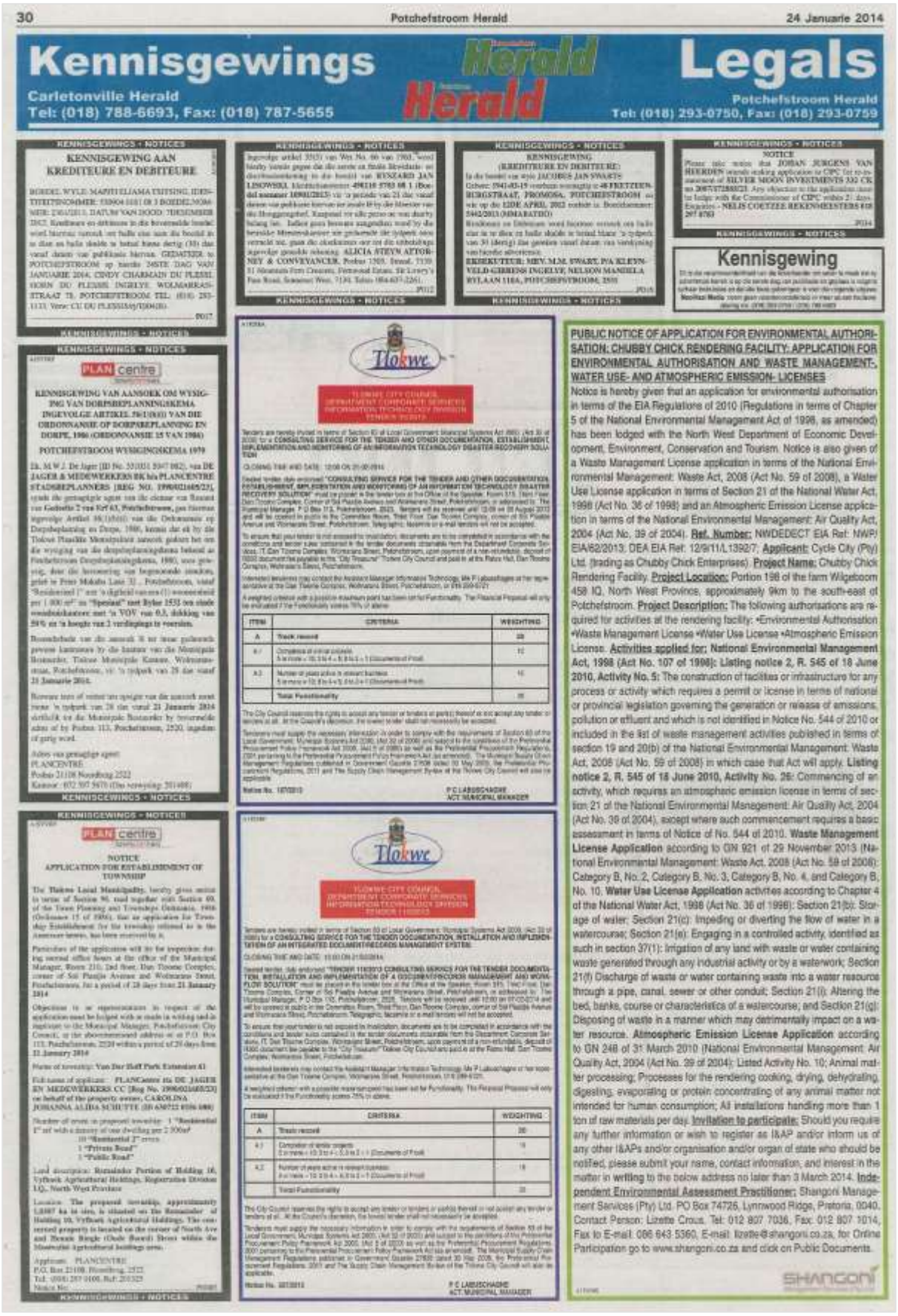
Figure 44: Example of the notification letters sent (page 2)

4.3.2 Methods of notification

4.3.2.1 Advertisement(s)

The proposed project was advertised in two local newspapers namely, the Potchefstroom Herald on 24th of January 2014 and the Beeld newspaper on the 23rd of January 2014. These newspapers were

found to be the most appropriate newspapers in terms of their accessibility to I&APs. A copy of the advertisements and proof of their placement is attached in Appendix E and is also given in the figures below.



30 Potchefstroom Herald 24 Januarie 2014

Kennisgewings Legals

Carletonville Herald
Tel: (018) 788-6693, Fax: (018) 787-5655

Potchefstroom Herald
Tel: (018) 293-0750, Fax: (018) 293-0759

KENNISGEWINGS • NOTICES

KENNISGEWING AAN KREDITEURE EN DEBITEURE

Kennisgewing

PUBLIC NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION: CHUBBY CHICK RENDERING FACILITY: APPLICATION FOR ENVIRONMENTAL AUTHORISATION AND WASTE MANAGEMENT-, WATER USE- AND ATMOSPHERIC EMISSION- LICENSES

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 North West Department of Economic Development, Environment, Conservation and Tourism. Notice is also given of a Waste Management License application in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), a Water Use License application in terms of Section 21 of the National Water Act, 1998 (Act No. 36 of 1998) and an Atmospheric Emission License application in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). **Ref. Number:** NWDEDECT EIA Ref: NWP/EIA/62/2013; DEA EIA Ref: 12/9/11/L.1392/7; **Applicant:** Cycle City (Pty) Ltd. (trading as Chubby Chick Enterprises) **Project Name:** Chubby Chick Rendering Facility. **Project Location:** Portion 198 of the farm Wilgeboom 459 IQ, North West Province, approximately 9km to the south-east of Potchefstroom. **Project Description:** The following authorisations are required for activities at the rendering facility: •Environmental Authorisation •Waste Management License •Water Use License •Atmospheric Emission License. **Activities applied for: National Environmental Management Act, 1998 (Act No. 107 of 1998): Listing notice 2, R. 545 of 18 June 2010, Activity No. 5:** The construction of facilities or infrastructure for any process or activity which requires a permit or license in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and which is not identified in Notice No. 544 of 2010 or included in the list of waste management activities published in terms of section 19 and 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply. **Listing notice 2, R. 545 of 18 June 2010, Activity No. 26:** Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), except where such commencement requires a basic assessment in terms of Notice of No. 544 of 2010. **Waste Management License Application** according to GN 921 of 29 November 2013 (National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008): Category B, No. 2, Category B, No. 3, Category B, No. 4, and Category B, No. 10. **Water Use License Application** activities according to Chapter 4 of the National Water Act, 1998 (Act No. 36 of 1998): Section 21(b): Storage of water; Section 21(c): Impeding or diverting the flow of water in a watercourse; Section 21(e): Engaging in a controlled activity, identified as such in section 37(1): Irrigation of any land with waste or water containing waste generated through any industrial activity or by a waterwork; Section 21(f) Discharge of waste or water containing waste into a water resource through a pipe, canal, sewer or other conduit; Section 21(i): Altering the bed, banks, course or characteristics of a watercourse; and Section 21(g): Disposing of waste in a manner which may detrimentally impact on a water resource. **Atmospheric Emission License Application** according to GN 248 of 31 March 2010 (National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004): Listed Activity No. 10; Animal matter processing; Processes for the rendering cooking, drying, dehydrating, digesting, evaporating or protein concentrating of any animal matter not intended for human consumption; All installations handling more than 1 ton of raw materials per day. **Invitation to participate:** Should you require any further 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 below address no later than 3 March 2014. **Independent Environmental Assessment Practitioner:** Shangoni Management Services (Pty) Ltd. PO Box 74726, Lynnwood Ridge, Pretoria, 0040. Contact Person: Lizette Crous. Tel: 012 807 7036, 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.

Figure 45: Proof of advertisement placement in the Potchefstroom Herald newspaper


Donderdag 23 Januarie 2014 Sport24 25

Geklassifiseer

CHUBBY CHICK RENDERING FACILITY NOTICE

ARTIN SLUIT KONTRAK

Martin Bezuidenhout, wat sy Leeus-trui nou vir die een van Griekwas verruil het. Foto's: LEE WARREN | GALLO IMAGES

Tian Meyer

Europese eerbewys

os slyp Doer Onder vir Spele

SA span

an die bestes.
week.

kry Beeld

CONSOLIDATED AUTO

Figure 46: Proof of advertisement placement in the Beeld newspaper

4.3.2.2 Placement of site- and public notices

Notice was also given to Interested and Affected Parties via the placement of notice boards. Notice boards were placed at two different, noticeable and conspicuous places (at the access road to the facility as well as on the fence of the facility itself) on the 23rd of January 2014. Photographs of the site notices are attached in Appendix E. Refer also to the figures below.

Figure 47: Site Notice 1

Figure 48: Site Notice 1 (zoomed in)

Figure 49: Site notice 2

4.3.2.3 Background Information Document

The Background Information Document (BID) provides background information pertaining to the project and is intended to inform I&APs of the project. The BID also includes a registration form that potential I&APs, stakeholders and organs of state are encouraged to complete in order to register as I&APs for the project.

The BID was sent to adjacent land owners, organs of state and stakeholders together with the notification letters mentioned previously. This correspondence was sent via registered mail, email and hand delivery where required. The BID is attached under Appendix E.

4.3.3 I&AP register

Once all adjacent landowners, organs of state and the public were notified of the proposed project, an I&AP register was compiled. The Departments and Organs of State have automatically been registered and where registration requests were received from other parties, such as adjacent land owners, these have been included in the register. The register is given in the table below and is also attached in Appendix E.

Table 12: Registered I&APs

No.	Name	Department / Interest
Organs of State		
1	Ms Ntombi S. Rikhotso	Tlokwe City Council - Environmental Management Unit
2	Faith Lephale, Vutomi Ndlovu, T.M. Ramatlhape-Tsotetsi, Nokukhanya Xaba and Zamisile Mabaso	Dr. Kenneth Kaunda District Municipality
3	HOD: Dr Kgabi Mogajan	North West Department of Agriculture and Rural Development
4	Mr. Phillip Hine	South African Heritage Resources Agency (SAHRA)
5	Hellen Makwela	Department of Water Affairs
Registered I&APs		
1	M.M. Coetzee	Adjacent land owners and/or living in close proximity to the site
2	Mrs Nelien Kleynhans	Adjacent land owners and/or living in close proximity to the site
3	Mr Johannes P.S. Gerber	Adjacent land owners and/or living in close proximity to the site
4	Mrs Martha Jan	Adjacent land owners and/or living in close proximity to the site
5	Mr Eddie Wentzel	Adjacent land owners and/or living in close proximity to the site
6	Mr Edwin D. Lovering	Adjacent land owners and/or living in close proximity to the site
7	Mrs Bessie E. van Burick	Adjacent land owners and/or living in close proximity to the site
8	Mr Pieter and Mrs Jacolien du Plooy	Adjacent land owners and/or living in close proximity to the site

No.	Name	Department / Interest
9	Mr Gerhard J. Nel	Adjacent land owners and/or living in close proximity to the site

Refer also to Appendix E for a detailed I&AP Register including contact information for all registered organs of state and I&APs.

4.3.4 Public meeting(s)

Thus far, no public meetings have been required for this project.

4.3.5 Access and opportunity to comment on written submissions

Electronic copies (and hard copies in the case of the Department of Water Affairs) or this draft Scoping Report will be made available to the public for review for a period of forty (40) days. An electronic copy of the draft Scoping Report will also be posted on the Shangoni Management Services' website (www.shangoni.co.za) for public comment for the same review period.

4.3.6 Consultation with the relevant Authorities

4.3.6.1 Application form in terms of the NEMA, 1998

The Environmental Authorisation application form in terms of NEMA, 1998, was submitted to the North West Department of Economic Development, Environment, Conservation and Tourism on the 7th of November 2013. A reference number (NWP/EIA/62/2013) was issued by the Department on the 27th of November 2013.

4.3.6.2Authorities meeting(s)

No meetings with the North West Department of Economic Development, Environment, Conservation and Tourism have been required thus far.

4.3.7 Further consultation with relevant Authorities

No meetings or consultation with the North West Department of Economic Development, Environment, Conservation and Tourism is presently foreseen.

4.3.8 Comments and responses

All issues, comments and questions received from I&APs thus far have been summarised in the table below. Copies of the comments received have also been included in Appendix E.

Table 13: Comments and responses report

Name	Company/ Department	Date received	Method of comment	Issue raised	Response
M.M. Coetzee	PlanServ Town & Regional Planning Services	10-02-2014	Fax	**RE: ENVIRONMENTAL AUTHORISATION - PORTION 198 OF THE FARM WILGEBOOM 458 I.Q.** The above mentioned as well as the site notice placed on the above mentioned property have reference. My husband owns Potion 173 of the farm Wilgeboom 458 I.Q and we also reside on the property. We are very concerned about the air quality in the area. We are located approximately 1.96km from the rendering plant and the smell is unbearable some days. We are not against the land use in principle but request that proper odour control is carried out in order to accommodate the residents in Wilgeboom area. The area consist mainly of agricultural holdings, but some other land uses such as a wedding venue (located approximately 1.5km from the rendering plant), can also be found in the area. Surely, the	**Response from Shangoni:** Dear Mrs Coetzee Your letter dated 10 February 2014 refers: We hereby acknowledge receipt of your letter and comments in relation to the following project: Chubby Chick Rendering Facility (NWDEDECT Ref: NWP/EIA/62/2013; DEA Ref: 12/9/11/L1392/7; SMS Ref: FOU-POT-12-05-02). Your comments will be included in all subsequent reports for this project and will also be addressed in said reports. I further confirm that you have been registered as an Interested and Affected Party for this project. You will henceforth receive all correspondence regarding public participation opportunities as the process unfolds. Please do not hesitate to contact me should you have any queries.

Name	Company/ Department	Date received	Method of comment	Issue raised	Response
				odours don't have a positive effect on the businesses and living quantity. I herewith request to be listed as an affected party and be informed of steps to be taken to resolve the odour problem. Your urgent attention and reply will be appreciated.	**Response from the applicant:** RE: CHUBBY CHICK RENDERING PLANT The letter received from MM Coetzee refers. We embarked on several projects to comply with environmental legislation. One of the projects is to upgrade the air scrubbing system with new technology. The present scrubber will be replaced with a bio-filter system. This filter system proved itself in other areas as very successful. A contract has been concluded and the replacement/upgrading must be concluded by the 10th of March 2014. We are confident that the up-grade will be beneficial to us as well as our neighbours.
Hellen Makwela	Department of Water Affairs	24-03-2014	Email	Good afternoon Lizette. Reference: Environmental Application for: Chubby Chick Rendering Facility: Water Use.	Good day Hellen The abstraction of water for use at the Chubby Chick Rendering Plant requires a Registration

Name	Company/ Department	Date received	Method of comment	Issue raised	Response
				Regarding the water use licence Application to be forwarded to the Department: DWA it is indicated the water uses in terms of the National Water Act, NWA 36 of 199 as section 21 (b), (c), (e), (f), (g) and (i) respectively but have however not indicate your requirement of the use of water that in this regard is Section 21 (a) of the same act. Kindly indicate whether the Section 21 (a) water use does or will not form part of your application, how and why? Hope you find the above in order.	of the Water Use, but falls under the General Authorisations. The 21(a) water use will, however, be discussed in the Water Use License application for this project. Please do not hesitate to contact me should you require any further information.
M.M. Coetzee	PlanServ Town & Regional Planning Services	05-05-2014	Email	Good day Lizette Thank you for the feedback. I take note of the contents of the letter and would like to inform you that the situation has indeed changed and we now rarely smell bad odours. We appreciate it. I would like to know if your client has already applied for a business permit / consent from the local authority to conduct the facility on the	Good day Madie Thank you for your email. I will forward your enquiry to the client and will notify you of the situation in terms of the consent from the local authority as soon as I receive feedback from the client. Your comments will also be included in subsequent reports for this project.

Name	Company/ Department	Date received	Method of comment	Issue raised	Response
				farm. I know this is not related to the EIA process but in terms of the Physical Planning Act as well as local policies, any land use other than farming that is conducted on agricultural land needs a permit.	

4.3.9 Conclusions of the PPP

In conclusion, the Public Participation exercise has provided adequate information to enable an understanding of what the rendering facility project entails and to address the concerns and comments received during the scoping process.

5. NEED AND DESIRABILITY FOR THE ACTIVITY

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

5.1 Developer / Applicant

Licensing the rendering facility in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) and the National Water Act, 1998 (Act No. 36 of 1998) will mean that the facility will be one of only a few licensed rendering facilities, in terms of environmental legislation, in the area. This legal compliance will ensure that the rendering facility can operate for the foreseeable future, without the risk of prosecution for non-compliance to the law. This should also reduce the insurance liability of the facility, decreasing premiums for the applicant. Furthermore, having a licensed facility will result in a better reputation for Chubby Chick and their product, the high protein meal, will be considered superior to high protein meals produced at unlicensed facilities.

The upgrading of the current wastewater management system will ensure that wastewater (process water) generated at the rendering facility is treated effectively in a wastewater treatment works. The changes will ensure that wastewater generated at the facility no longer pollutes the environment. Potential upgrading of the current earth evaporation dam through the addition of a liner will also prevent soil-, surface water- and groundwater pollution. The above listed changes will ensure that the rendering facility operates in a more environmentally responsible manner and will decrease the reputational and legislative liabilities faced by the facility.

5.2 Local community

The unemployment rate for the Tlokwe City Council municipal area is almost 30% according to the 2011 census (Statistics South Africa, 2011). The rendering facility employs 25 people on a permanent basis and this ensures a constant income for up to 25 households. The continued, sustainable operation of the rendering facility will benefit the local community though the continued employment of 25 people. The rendering facility also stimulates other businesses, such as the transporters that collect boiler ash from the facility.

6. IDENTIFIED ALTERNATIVES

The following definition of "alternatives" is given in the EIA Regulations of 18 June 2010: "alternatives", in relation to the proposed activity, *means different means of meeting the general purpose and requirements of the activity, which may include alternatives to-*

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

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 an 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 attributes (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 in terms of 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 that 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 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
Physical environment		
Air Pollution	-1	-1
Noise Pollution	-1	-1
Water Quality	0	-1
Water Quantity	-1	-1
Visual Aesthetics	-1	-1
Biophysical environment		
Fauna and Flora	0	-1
Sensitive Environments	0	-1
Social environment		
Traffic	0	0
Impact on property values	1	-1
Safety and security	0	0
National, regional and local economy	1	1
Infrastructure development	1	0
Total	**-1**	**-7**

As can be seen in the table above, both the development option and the no-go option have a negative overall score. The no-go option, however, has a greater negative score than the development option. This is because the following improvements will occur at the rendering facility as part of the development option:

- An effective wastewater treatment system will be installed (improved quality of water discharged into the environment and no negative impact on fauna, flora and sensitive environments);
- The existing earth, wastewater evaporation dam may be lined; and
- The rendering facility will be licensed in terms of the National Water Act, 1998, and the National Environmental Management: Air Quality Act, 2008. Licensing will entail the stipulation of various mitigation and management measures by the various competent authorities, all of which will result in the facility being managed in a more environmentally responsible manner.

The above mentioned improvements will decrease the environmental impact of the rendering facility (below current, No-Go Option levels).

6.2 Alternatives considered

6.2.1 Activity alternatives

The activity is the treatment of hazardous waste (abattoir waste from the Chubby Chick abattoirs and chicken mortalities from the chicken farms) at the Chubby Chick rendering facility, making the waste harmless to the environment. The end-product of this process is a by-product meal that can be sold to generate an income for Chubby Chick. An alternative way for Chubby Chick to responsibly handle their hazardous waste would be to dispose of the waste at a licensed hazardous waste disposal site, such as Enviroserv's Holfontein hazardous waste disposal site in Sundra. This is not deemed a feasible alternative for the following reasons:

- Disposal of hazardous waste at a licensed hazardous waste disposal site is costly and would be a significant financial burden to Chubby Chick in terms of the amount of waste that would need to be disposed on a monthly basis. This would jeopardise the profitability and long-term, sustainable operation of the Chubby Chick abattoirs and farms and of the permanent jobs that are created at the abattoirs, farms and related industries; and
- Disposal of the waste at a hazardous waste disposal site would mean that the waste cannot be processed at the Chubby Chick rendering facility. The income from this process would not be generated and the permanent jobs created at the rendering facility would not exist.

6.2.2 Location alternatives

As this project entails the licensing of an existing, operational rendering facility, no location alternatives can be considered.

6.2.3 Site layout alternatives

As this project entails the licensing of an existing, operational rendering facility, no site layout alternatives can be considered.

6.2.4 Process alternatives

Wastewater

The current process wastewater management system at the rendering facility is inefficient and entails the evaporation of untreated wastewater in an earth evaporation pond. The first process alternative that is being considered is the installation of an adequately designed process wastewater treatment works to treat the wastewater to a quality that complies with the Department of Water Affairs' General Limit standards for discharge into a water resource or irrigation. The second alternative, namely the lining of the existing earth evaporation dam, is also being considered.

7. IDENTIFICATION OF ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This part of the document focuses on the identification of the major potential impacts that the activities, processes and actions may have on the surrounding environment. It indicates the major impacts that these activities may have on the environmental components associated with the site, as required in terms of Regulation 28 (g) of R.543 of the EIA Regulations, 2010, under the NEMA, 1998. Furthermore, it describes the processes to be undertaken to ensure that the identified impacts are mitigated.

7.1 Project phases and activities to be undertaken

For the purposes of this impact assessment, the project timeframe will be subdivided into the following phases:

- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.

Potential cumulative impacts were also identified, where applicable.

7.1.1 Construction Phase

The following activities are anticipated at the existing rendering facility during the construction phase of the project:

- Construction of a wastewater treatment works (volumes are below the threshold requiring licensing in terms of NEMA); and
- Possible lining of the existing wastewater evaporation pond.

7.1.2 Operational Phase

The following activities are anticipated at the existing rendering facility during the operational phase of the project:

- Offloading of abattoir waste and mortalities at the intake area and the storage of blood in the blood collection tank;
- The waste mixture will be loaded into the cooking vessels for sterilisation;
- Once sterilised, the product will be milled and bagged for removal off site;
- Steam from the cooking vessels will pass through a condenser and biofilter;

- Wastewater and wash water from the process will be treated in a new wastewater treatment plant to the Department of Water Affairs' General Limit standard for discharge into a water resource or irrigation. Designs for this system will be confirmed in subsequent reports; and
- Channelling of sewage and grey water from the shower facilities into the French drain system.

7.1.3 Decommissioning Phase

Closure and decommissioning of the rendering facility is not anticipated for the foreseeable future. Should the facility close, a detailed closure and rehabilitation plan will be submitted to the North West Department of Economic Development, Environment, Conservation and Tourism prior to decommissioning.

7.2 Impacts identified

The main impacts identified for the rendering facility project are listed below. The environmental impact assessment report will include a full risk assessment of all environmental impacts. The Environmental Management Programme (EMP) will set out mitigation measures to be implemented during the Construction, Operational and Decommissioning Phases. Refer to Part 8 of this Scoping Report for the Impact Assessment methodology that will be followed as part of the EIA process.

7.2.1 Construction Phase

The table below lists the potential impacts during the Construction Phase.

Table 15: Potential impacts during Construction Phase

Impact: Soil Pollution and Degradation	
Contributing aspects	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
	Incorrect management, storage and disposal of concrete and cement.
	Incorrect management, storage and disposal of chemicals.
	Incorrect management, storage and disposal of construction, general and hazardous waste.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Unsanitary conditions on site.
	Loss of topsoil due to ineffective topsoil removal and storage.
Impact: Air pollution and nuisance (generation of dust)	
Contributing aspects	Construction vehicles not adhering to speed limits on the site.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Air pollution and nuisance (generation of air emissions)	
Contributing aspects	Additional vehicle emissions released from the additional construction vehicles and equipment used during the construction phase and clearance of vegetation.

	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Environmental Noise and nuisance	
Contributing aspects	Noise generated by additional construction vehicles and equipment during the construction activities.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Surface- and/or groundwater pollution	
Contributing aspects	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
	Incorrect management, storage and disposal of concrete and cement.
	Incorrect management, storage and disposal of chemicals.
	Incorrect management, storage and disposal of construction, general and hazardous waste.
	Unsanitary conditions on site.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Spillages during cleaning of equipment used for construction (e.g. cement mixers).
Impact: Injury or possible death	
Contributing aspects	Inadequate training of employees or contractors on risks associated with construction phase, such as working at heights.
	Safety hazards may occur if equipment is not handled in the correct manner.
	If employees do not receive the correct PPE for their specific responsibilities.
	If employees do not adhere to safety rules implemented at the construction site.
Impact: Soil erosion	
Contributing aspects	Soil erosion due to clearance of vegetation.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Biodiversity loss (within a Critical Biodiversity Area 2)	
Contributing aspects	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
	Biodiversity loss due to clearance of vegetation.
	Disturbance of vegetation on No-Go areas due to unauthorised access.
	Disturbance of vegetation due to runaway veld fires caused by workers or contractors.
	Disturbance or degradation of a drainage line (and possible wetland) due to unauthorised access or runoff of affected stormwater or wash water.

7.2.2 Operational Phase

The table below lists the potential impacts during the Operational Phase.

Table 16: Potential impacts during Operational Phase

Impact: Soil Pollution	
Contributing aspects	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
	Incorrect management, storage and disposal of chemicals and fuels.
	Incorrect management, storage and disposal of general and hazardous waste.
	Unsanitary conditions on site.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Ineffective treatment of process wastewater and its release (discharge or irrigation) into the environment.
	Contamination of stormwater runoff.
	Ineffective management of sewage.
Impact: Air pollution and nuisance (generation of dust)	
Contributing aspects	Vehicles not adhering to speed limits on the site.
	Windy conditions together with dirt access roads.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Air pollution and nuisance (generation of air emissions)	
Contributing aspects	Generation of emissions and odours through the rendering process.
	Emissions from the diesel generator on site.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Environmental Noise	
Contributing aspects	Noise generated by the rendering process and vehicles travelling to and from the facility.
	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
Impact: Surface and/or groundwater pollution	
Contributing aspects	Workers and/or contractors being uneducated in terms of how their activities can negatively impact on the environment.
	Incorrect management, storage and disposal of chemicals and fuels.
	Incorrect management, storage and disposal of general and hazardous waste.
	Unsanitary conditions on site.
	Incorrect management and disposal of contaminated wash water or wastewater.
	Contamination of stormwater runoff.
	Ineffective treatment of process wastewater and its release (discharge or irrigation) into the environment.
	Ineffective management of sewage.
Impact: Surface and/or groundwater quantity impacts	

Contributing aspects	Abstraction of groundwater from an adjacent property (Portion 0 of the farm Vogelzang 467 IQ) owned by Fourie's Poultry (part of Cycle City).
Impact: Soil erosion	
Contributing aspects	Possible soil erosion due to incorrectly managed stormwater runoff.
Impact: Biodiversity loss (within a Critical Biodiversity Area 2)	
Contributing aspects	Disturbance or degradation of a drainage line (and possible wetland) due to the release (discharge or irrigation) of ineffectively treated process wastewater and/or sewage into the environment.

7.2.3 Decommissioning Phase

Closure and decommissioning of the rendering facility is not anticipated for the foreseeable future. Should the facility close, a detailed closure and rehabilitation plan will be submitted to the North West Department of Economic Development, Environment, Conservation and Tourism prior to decommissioning.

7.3 Conclusion on impacts identified

In general the expected environmental impacts from the construction and operation of the rendering facility and its associated infrastructure do not indicate that the activities would have irreversible detrimental effects on the receiving environment.

However, further specialist studies and investigations will be carried out during the EIA phase and will be taken into consideration when conducting the risk (impact) assessment for the rendering facility project. Refer to Part 8 of this Scoping Report for further information.

7.4 Processes to be undertaken to ensure that impacts are mitigated

Mitigation measures need to be identified to ensure that impacts from the rendering facility are reduced as far as possible. The following mitigation measures objectives will be kept in mind while mitigation measures are identified:

- To find more environmentally sound ways of undertaking specific activities;
- To enhance any environmental and social benefits of a proposed activity;
- To avoid, minimise or remedy negative environmental impacts; and
- To ensure that any residual negative environmental impacts are environmentally acceptable.

Identifying appropriate mitigation measures will be conducted in a hierarchal manner:

1. Preventative measures will be identified to avoid, where possible, negative impacts that may arise as a result of the proposed activity;

2. Measures will be identified to minimise and/or reduce the negative impacts to “as low as practicable” levels; and
3. Measures will be identified to compensate or remedy residual negative impacts that are unavoidable and cannot be minimised or reduced any further (Department of Environmental Affairs, 2006).

Proposed mitigation measures will be communicated to the applicant for review as part of Draft Environmental Management Programme (EMP). The applicant will comment on the feasibility and practicality of implementing the mitigation measures. The mitigation measures may then be adjusted based on the applicant’s comments.

8. PLAN OF STUDY FOR EIA

In accordance with of Regulation 28 (of Regulation 543) of the EIA Regulations (2010), under the NEMA, 1998, the knowledge gaps identified and a description of the tasks that will be undertaken as part of the EIA process, including any specialist reports or specialised processes (including the manner in which such tasks will be undertaken), are discussed in this part of the Scoping Report.

8.1 Tasks to be undertaken as part of the EIA process

The Environmental Impact Assessment process will be conducted subsequent to the Scoping process and will be undertaken in accordance with the Regulation 31 of the EIA Regulations of 18 June 2010. The Environmental Impact Report (EIR) for the proposed project will include detailed information relating to the anticipated impacts that may arise as a result of the proposed activity.

The EIR and draft EMP in accordance with NEMA (1998) and as per the EIA Regulations R.543 of 18 June 2010, will include, but are not limited to, the following:

- Details of the Environmental Assessment Practitioner (EAP);
- Expertise of the EAP to carry out an EIA;
- A detailed description of the proposed activity;
- A description of the property on which the activity is to be undertaken and the location of the activity on the property;
- A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
- Details of the public participation process followed;
- A description of the need and desirability of the activity;
- A description of the identified alternatives to the activity, including advantages and disadvantages that the activity may have on the environment and the community that may be affected by the activity;
- An indication of the methodology used in determining the significance of potential environmental impacts;
- A description and comparative assessment of all alternatives identified during the environmental impact assessment process;
- A summary of the findings and recommendations of any specialist report or report on a specialised process (no specific requests have been received from the competent authorities to date);
- A description of all environmental issues that were identified during the environmental impact assessment process, an assessment of the significance of each issue and an indication of the extent to which each issue could be addressed through the adoption of mitigation measures;

- An assessment of each identified, potentially significant impact, including cumulative impacts, the nature of the impact, the extent and duration of the impact, the probability of the impact occurring, the degree to which the impact can be reversed, the degree to which the impact may cause irreplaceable loss of resources, and the degree to which the impact can be mitigated;
- A description of any assumptions, uncertainties and gaps in knowledge;
- A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;
- An environmental impact statement;
- A draft environmental management programme containing the aspects contemplated in the regulations, including, but not limited to, environmental management objectives and goals, mitigation measures and management of significant impacts, a description of persons responsible for mitigation implementation, description of time periods applicable to mitigation implementation, and monitoring and performance assessment requirements;
- Inclusion of technical and supporting information;
- Copies of any specialist reports and reports on specialised processes, complying with the regulations;
- Any specific information that may be required by the competent authority; and
- Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

Compilation of the EIR and draft EMP will be conducted according to the EIA Regulations of 18 June 2010 (R.543) as per NEMA, 1998, and will include, but is not limited to, the following:

- The compilation of the EIR as stipulated in Regulation 31 of R.543 (18 June 2010), as per NEMA, 1998;
- The draft EIR and EMP will be submitted to the applicant for input prior to its submission for public and competent authority comment;
- Public Participation will be conducted in accordance with the EIA Regulations of 18 June 2010 (R.543). This will include submission of the draft EIR and EMP to the competent authority and the public in order to obtain their comments for a period of 40 days [R543(56)];
- All comments, objections and/or representations received during the Public Participation Process will be included and addressed in the final EIR and this document will be finalised;
- The final EIR and draft EMP will be submitted to the client to obtain their inputs;
- Registered Interested and Affected Parties will be given an opportunity to comment on the final EIR as stipulated in R543 (56)(6). Their comments will be submitted to the competent authority and the EAP or applicant will be copied;
- The final EIR and draft EMP will be submitted to the competent authority for consideration. The competent authority will have 14 days to acknowledge receipt of the final EIR. Thereafter, the competent authority has 60 days to consider the report and in writing accept the report, reject the report, or ask for additional information or amendments to the document [R.543(34)(2)]. Once the

report has been accepted, the competent authority has 45 days to grant or refuse authorisation [R.543(35)(1)]; and

- Continued consultation with the relevant authority until issuing of the decision.

8.2 Stages at which the competent authority will be consulted

The stages at which the competent authority will be consulted in the process of compiling the EIR and draft EMP as per the EIA Regulations R.543 (2010), will include amongst others, the following:

- During the Public Participation Process in accordance with the EIA Regulations R.543 (2010), the draft EIR will be submitted to the competent authority for a period of 40 days (unless agreed otherwise) to obtain their comments [R543 (56)];
- The final EIR will be submitted to the competent authority. They will have 60 days, after acknowledging receipt of the final EIR, to consider the report and in writing accept the report, reject the report or request additional information or amendments to the document [Regulation 543(34)(2)]; and
- Continued consultation with the competent authority until the decision is issued.

8.3 Methodology of assessing the environmental impacts

It is required by Regulation 28 (g) of R.543 of the EIA Regulations, 2010, that major potential impacts on the surrounding environment, as a result of the activity, are identified during the Scoping Phase.

Regulation 31 of R.543 of the EIA Regulations (2010), under the NEMA (1998), requires that an EIR includes an assessment of the status; extent; duration; probability; reversibility; replaceability of resources; and mitigatory potential of the major potential environmental impacts of the proposed activity.

A baseline identification of the major potential impacts has therefore been included in this Scoping Report. The prediction of the nature of each impact, the evaluation of each impact by rating its significance and the management and mitigation measures adopted to address each impact, will be assessed during the EIR.

Impact assessments should be conducted based on a methodology that includes the following:

- Clear processes for impact identification, predication and evaluation;
- Specification of the impact identification techniques;
- Criteria to evaluate the significance of impacts;
- Design of mitigation measures to lessen impacts;
- Definition of the different types of impacts (indirect, direct or cumulative); and
- Specification of uncertainties.

In broad terms, the impact assessment for this project will include the following:

- All potential impacts of the proposed activity will be identified and assessed;
- The nature, extent, magnitude and duration of all potentially significant impacts will be predicted;
- A range of mitigation measures that could decrease the impacts will be identified; and
- The significance of residual impacts that remain, after the proposed mitigation measures are implemented, will be evaluated.

The construction, operational and decommissioning phases of the project will be considered whilst identifying impacts. A detailed understanding of the proposed activity will be obtained to ensure that all the potential impacts are identified. The following process will be followed to identify and assess the potential impacts of the proposed activity:

- The current environmental conditions will be determined in detail. This will act as a baseline against which impacts can be identified and measured;
- The changes that will occur in future, should the proposed activity not occur, will be identified;
- A detailed understanding of the activity will be obtained in order to fully understand its consequences; and
- The significant impacts that will occur as a result of the proposed activity will be identified (should the activity be authorised).

After all impacts have been identified, the nature of each impact can be predicted. The impact prediction will take into account physical, biological, socio-economic and cultural information and will then estimate the likely parameters and characteristics of the impacts. The impact prediction will aim to provide a basis from which the significance of each impact can be determined and appropriate mitigation measures can be developed.

The risk assessment methodology is based on defining and understanding the three basic components of risk, i.e. the source of the risk, the pathway and the target that experiences the risk (receptor). Refer to the figure below for a model representing the above principle, as contained in the DWA's Best Practice Guideline: G4 – Impact Prediction.

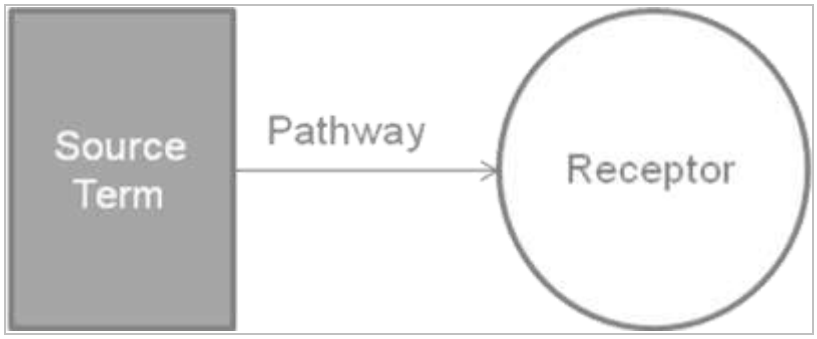


Figure 50: DWA's model for impact prediction (risk assessments)

Tables 17 and 18 below indicate the methodology to be used in order to assess the Probability and Magnitude of the impact, respectively, and Table 19 provides the Risk Matrix that will be used to plot the Probability against the Magnitude in order to determine the Severity of the impact.

Table 17: Determination of Probability of the Impact

Frequency of Aspect / Unwanted Event	Score	Availability of pathway from the source to the receptor	Score	Availability of receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

Step 1: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor.

Table 18: Determination of Magnitude of impact

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume/ Quantity/ Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site (metres)	1	Very small quantities/ volumes/ intensity (e.g. <50L or <1hHa)	1	Non toxic (e.g. water)/ Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance/ sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities/ volumes/ intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic/ Harmful (e.g. diluted brine)/ Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary (hundreds of metres)	3	Moderate quantities / volumes / intensity (e.g. > 210 L < 5000L or 5 – 8Ha)	3	Moderately toxic (e.g. slimes)Potential to create damage or destruction to the environment	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced/ Partially reversible	3	Current environmental component(s) are a mix of disturbed and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	3
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4
Beyond life of Organisation / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive area (endangered species, wetlands, protected habitats etc.)	5

Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors above.

Table 19: Determination of Severity of impact

ENVIRONMENTAL IMPACT RATING / PRIORITY					
	MAGNITUDE				
PROBABILITY	1 Minor	2 Low	3 Medium	4 High	5 Major
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

Step 3: Determine the **SEVERITY** of the impact by plotting the averages that were obtained above for Probability and Magnitude in the table below.

8.4 Public Participation during the EIA process

The compilation of the EIR and draft EMP, as per R.543 will include, but is not limited to, the following public participation processes:

- The draft EIR and draft EMP will be provided to the client for review prior to public and competent authority comment;
- The Public Participation Process will be conducted in accordance with the EIA Regulations R.543 (2010). This will include submitting the draft EIR to the competent authority and public for a review period of 40 days [Regulation 543(56)];
- All comments, objections and/or representations received during the Public Participation Process will be included and addressed in the final EIR and this document will be finalised;
- The final EIR and draft EMP will be submitted to the client to obtain their inputs; and
- Registered Interested and Affected Parties (I&APs) will be given an opportunity to comment on the final EIR as stipulated in R.543(56)(6). Their comments will be submitted to the competent authority and the EAP or applicant will be copied.

8.5 Alternatives

Alternatives have and will continue to be investigated and the “No-Go Option” will be included in the alternatives assessment. The EIA document will discuss the alternatives identified and investigated for the proposed project as well as the advantages and disadvantages of each.

8.6 Knowledge gaps and specialist studies

The following knowledge gaps and uncertainties have been identified during the scoping process of the rendering facility project and require further investigations that will be comprehensively carried out as part of the EIA process for the proposed project:

- All relevant specialist studies need to be conducted for the rendering facility. The specialist studies identified during the Scoping Phase include a Wetland Assessment and Delineation, a Stormwater Management Plan, an Air Quality Impact Report and a monitoring plan (quality and quantity of water used and discharged or irrigated);
- While impacts have been identified as part of the scoping process, it is required as part of the EIA Phase to fully quantify impacts to all aspects of the environment; and
- Designs are being developed for the new wastewater treatment works and potentially for the lining of the existing wastewater evaporation pond. These designs will be presented as part of the final EIR.

9. CONCLUSION

This scoping process has been carried out in accordance with the NEMA, 1998, and the Regulations there under.

The following main potential environmental impacts have been identified as part of this Scoping phase:

- Soil-, surface water- and groundwater pollution;
- Generation of noise and subsequent nuisance to nearby landowners;
- Generation of atmospheric emissions, dust and odours and subsequent nuisance to nearby landowners;
- Loss or disturbance of vegetation;
- Loss of topsoil;
- Soil erosion;
- Disturbance of a drainage line and possible wetland zones; and
- Contamination of surface water runoff.

Appropriate mitigation measures will assist in minimising the potential impacts on the surrounding environment during the construction and operational phases of the development. These will be identified during the Environmental Impact Assessment Phase of this project.

Knowledge gaps identified as part of this scoping phase include a number of specialist studies as well as the finalisation of designs for the wastewater treatment works and potentially for the lining of the existing wastewater evaporation pond.

Based on the above-mentioned information and the identification of the potential environmental impacts as a result of the rendering facility, it is concluded that a full Environmental Impact Assessment may commence.