APPLICATION FOR AUTHORIZATION SUPREME POULTRY, REMAINDER OF FARM BELGIE 1285, FREE STATE PROVINCE

FINAL SECTION 24G REPORT

Prepared for:

Prepared by:

Marius Venter

marius@enviroworks.co.za

T: 051 436 0793

1 Executive Summary

Introduction and Background

Supreme Poultry (PTY) Ltd. (The Applicant) appointed Enviroworks, an Independent Environmental Assessment Practitioner (EAP), to undertake the Section 24G application process for the unlawful commencement of the development of facilities which includes the development of a hatchery (Nov. 1999), concentration of animals (Breeders farm) (Poultry) (Jan 2005) as well as construction of a store, workshop, chemical store and 3 (three) housing units on remainder of the Farm Belgie 1285, Bloemfontein, Mangaung Metropolitan Municipality (Figure 1).

Coordinates

Longitude: 29° 8' 50.98'' S

Latitude: 26° 25' 53.01'' E

Project Description and purpose of this report

Supreme Poultry is a poultry breeder and hatchery providing day-old chicks to the retail market. This Section 24G Report provides the information and the public consultation undertaken to obtain an Environmental Authorization for the breeder and hatchery facilities at Supreme Poultry-Belgie farm.

Supreme Poultry (Pty) ltd undertook unlawful commencement of the following activities:

Development of chicken houses (Breeders): The twenty four (24) chicken houses can each accommodate six thousand five hundred (6500) chickens per house. The twenty four (24) rearing houses receive six thousand five hundred (6500) chickens every 65 weeks and covers an area of approximately 10 (ten) hectares. Currently there are 24 operational chicken houses at the hatchery which amounts to a total of ±156 000 chickens within the breeder facilities. The four (4) breeder areas are roughly situated 500 metres from each other. In the breeders farm chickens are brought in from one day old, they start laying eggs on day 178 and is sold as cull chickens on day 448.

Development of a Chicken hatchery: The hatchery accommodate a total of roughly 2 651 600 hatching eggs per month. These chicks are transported to the growers on the same day and therefore does not stay on site for more than a day. There is one hatchery situated on the farm Belgie where all eggs are sent to. The development footprint is approximately two point eight (2.8) hectares. The distance between the nearest breeder house and hatchery is roughly three hundred and seventy three (373) metres.

The section of the premises that contains the store, workshop and the chemical store have a development footprint of approximately one (1) hectare.

Operational activities

Manure:

The manure produced from the chicken lay houses (breeder farm) is strictly chicken manure and bedding material that are used in the houses. The chicken manure and bedding are being scraped out during the cleaning process where after the houses are washed. The remaining water within the chicken houses are pushed onto the bare soil in front of the houses; hence the development of a storm water management plan would be of good purpose on site, in order to avoid any infiltration that will result negatively on the groundwater and other plans. It should however, be noted that the quantity of water pushed out of the houses is minimal, but a stormwater management plan may be necessary if required by the department. Approximately thousand (1000) tons of manure is removed every four (4) months from each house and removed by a contractor.

Mortalities

Much care is given to the overall well-being of the chickens throughout each production cycle. Strict disease control measures are implemented during the operation of both the hatchery and breeder houses. The mortalities are estimated to be around 6 chickens per day, which are stored in a fridge and collected by a lion farmer twice a week and given to lions for feeding. No carcasses are incinerated on the farm.

Disease Control

Visitors and cars entering the farm are disinfected at the gate. Visitors are limited to the office premises. All personnel entering the chicken houses are disinfected and provided with the safety clothes after showering. The houses are kept clean and thoroughly cleaned and disinfected at the end of each production cycle. Houses are approximately 20 metres apart to prevent contact between chickens from different houses. Cleaners are disinfected as they move from one house to the other. The chemical matrix of disinfectants used for both the breeders and hatchery are attached as well as a gap management system.

Water Use

The farm is dependent on municipal water while two boreholes are in use for cases of emergency while another three existing boreholes are not in use (dry boreholes). Separation dams are already established on site although the Water Use License Application is still in process. The water entering the dams are from the hatchery where after it is treated in the dams and sprayed onto the premises for irrigation. The total average water use for the hatchery is +- 3560.25 m^3 per month while the average water use for the breeders farm amounts to 42 996.8 m^3 per month.

Electricity and Heating

Eskom electricity is currently used for the purpose of both cooling and heating with an average consumption of 197 264.25 kWh per month for the hatchery and 101 428 kWh for the breeder's farm. Generators are also used for emergencies and 24 Bosman Dryers (coal operated) are used for temperature regulation within the breeder houses while one Bosman Dryer together with LP Gas heaters are used at the Hatchery. The ash generated from the heatcos are currently used on the farm to prevent rodents from entering the chicken houses. Ash from the heatcos however, will need to be tested in order to establish what the management process revolving this will be. The latter may include to either be used on the farm to fix roads, prevent rodents from entering the chicken houses or to be removed to a hazardous waste disposal site.

Waste

Various wastes are removed from the farm by either other farmers or contractors rather than stored on the premises. Chicken manure is removed by farmers and registered contractors. Chicken carcasses are stored in freezers until collected by a lion farmer. Medical waste (vaccination of chickens) and egg debris are removed by a waste removal company (Compass waste and Envirotech respectively) while general wastes are taken to the local landfill site.

Locality and sensitivity map:

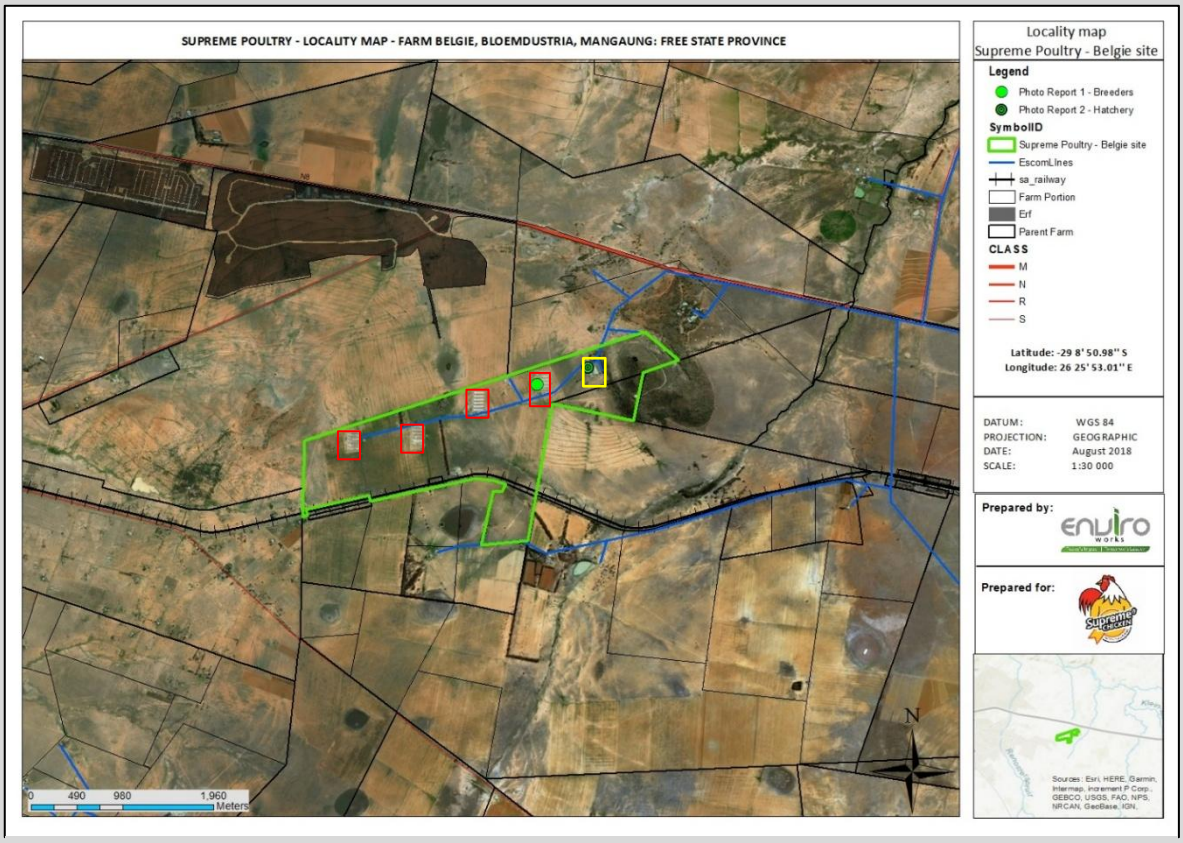

Figure 1- Locality map - Chicken Breeder houses outlined in red and Hatchery in yellow.

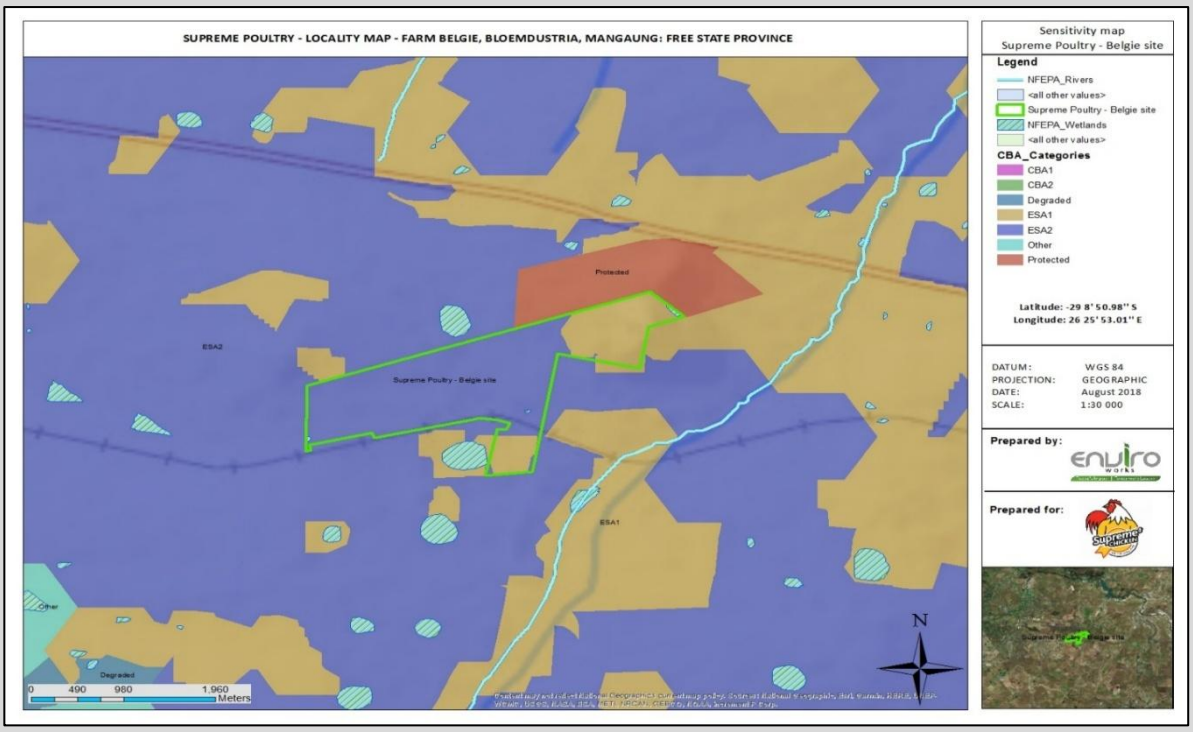

Figure 2 – Sensitivity map of Belgie Breeders and Hatchery.

Legislative Context

The unlawful commencement of these developments are listed activities in terms of Sections 24(2) and 24(d) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended in April 2017). The Environmental Impact Assessment (EIA) Regulations, 2017 promulgated in terms of Chapter 5 of the NEMA provide for

the control of certain activities that are listed in Government Notice Regulations No. (GN R) No. R327, R325 and R324. Activities listed in these notices must comply with the regulatory requirements listed in GN R No. R326, which prohibits such activities until written authorisation is obtained from the competent authority. Such Environmental Authorisation, which may be granted subject to conditions, will only be considered once there has been compliance with the EIA regulations, 2017. GN R No. 326 sets out the procedure and documentation that need to be compiled with undertaking a Basic Assessment Report (Section 24G Report). Other relevant legislation as listed activities triggered include the EIA Regulations promulgated in terms of the ECA, Act No 73 of 1989 - GNR 1182 & 1183:

Legislative Context

The proposed project constitutes the following listed activities in terms of the NEMA:

Listed activities in terms of Listing Notice 1 of 2017

Between 1 April 1998 and 09 May 2002:

- **Activity 2 (d)** (Belgie -Hatchery): The change of land use for grazing to any other form of agricultural use

ECA EIA Contraventions : Between 10 May 2002 and before end of day 02 July 2006

- **Activity 3** (Belgie - Breeders) - The concentration of livestock, aquatic organisms, poultry, and game in a confined structure for the purpose of commercial production, including aquaculture and mariculture.

NEMA EIA Regulations of 2014, as amended 2017:

- **Activity 5:**

The development and related operation of facilities or infrastructure for the concentration of –

(ii) More than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days

(v) More than 25 000 chicks younger than 20 days per facility situated outside an urban area

- **Activity 8:**

The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2000 square metres or more.

Supreme Chicken approached Enviroworks, bona fide, in order to obtain environmental authorisation for their unlawful activities up to date. A Section 24G Application has been made to the Department of Economic, Small Business Development, Tourism and Environmental Affairs.

Report Structure

This report is set out as follows:

- **Executive Summary (Section 1)**
- **Introduction (Section 2).**
- **Details of the Environmental Assessment Practitioner, reviewer and declarations (Section 3).**
- **Background to the project (Section 4)**
- **Receiving environment (Section 5).**
  Provides detail on the affected landscape in its present state. A range of aspects relating to the biophysical (e.g. geology, soil surface and sub-surface water and biodiversity), socio-economic, historic and cultural character of the immediate site and surrounding areas are described herein, whilst applicable legislation, policy and guidelines considered are recognised.

- **Public Participation (Section 6).**

- **Impact Assessment (Section 7).**
  Describes how the development may impact on the geographical and physical, biodiversity, socio-economic and historical and cultural aspects of the receiving environment. Resource uses of the development phases, attributed to waste and emissions, water use, power supply and energy efficiency are further discussed.
- **Environmental management Programme (Section 8)**
- **Alternatives (Section 9)**
- **Permits obtained (Section 10)**
- **Storm water management (Section 11)**
- **Professional appraisal (Section 12)**
- **Appendices (Section 13)**

Public Participation Process

A comprehensive **Public Participation Process** will be undertaken to engage stakeholders and Interested and Affected Parties on the development. I&AP's has been informed of the Application for Rectification Process through an advertisement in one (1) local newspaper and poster notices that have been erected at strategic locations. The surrounding landowners have been informed of the unlawful commencement of activities by means of the distribution of comment forms and the Section 24G Report, as well as relevant Organs Of State.

Specialist Findings

Heritage

The residual topsoil (Quaternary sediments) have been completely degraded as a result of prior agricultural and industrial activities. In accordance with the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) there is no above-ground evidence to suggest that building structures older than 60 years or material of cultural significance or archaeological sites were affected within the demarcated area. The terrain in general is regarded as of low archaeological significance and is assigned a rating of Generally Protected C (GP.C). As far as the archaeological and palaeontological heritage is concerned, the development may proceed with no additional heritage assessments necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint. The graves as found on site will not be damaged as the construction was already completed.

Air Quality

Based on the nature of the activity various emissions, ranging from SO2, NOX, and PM10, and dust, are likely to be emitted. With reference to the monitoring results, the significance level of impact is rated low to very low for SO2 and NO2 whilst the impact of PM10 will rate at medium in terms of significance level and with proper mitigations it may rate low, the same rating is possible for dust as well. The sensitivity receptors are limited to the farm workers as no other significant sensitive receptors are noted.

The concentrations recorded within Belgie Farm well below the National Ambient Standards for each of the priority pollutants investigated, sulphur dioxide (SO2) and nitrogen dioxide (NO2). It can be concluded that the ambient Air Quality at Belgie Farm is well within the National Environmental Management: Air Quality Act's Ambient Air Quality Standards.

It is therefore recommended that Supreme chickens conduct annual monitoring to keep track of their ambient air quality (As recommended by the Air Quality specialist study).

Water

The water sample (BH001 and BH002) can be used for human consumption after being treated by filtration and chlorination or UV and must be monitored. The water also can be classified as very hard water (BH001) (368) and (BH002) as hard water (130).This implies the water is super saturated and will lead to scale formation, if not treated by a softener system.

The in-house red bowl showed *E. coli* and faecal coliforms. The system needs to be tested before and after a cleaning regime to determine the effectiveness of the cleaning regime. This also forms part of the management plan. Furthermore, submersible ultra violet lights can be installed in the supply. The water from Dam 1 to 4 that is used for irrigation must have the proper authorisations.

The elevated levels of ammonia in dam 1 and 4 can be from the birds themselves. Unused nitrogen is excreted as uric acid (80%), ammonia (10%), and urea (5%). When ammonia gas is exposed to moisture, it reacts and forms a basic, corrosive solution called ammonium.

Ecological

If mitigation measures are implemented, the likelihood of significant ecological impacts occurring on ecosystem will be reduced to low levels.

The overall footprint of the farm is not likely to generate a significant impact on broad scale ecological processes or landscape connectivity, on condition that all mitigation measures are followed. Any operational risk of odour emissions or pollution due to inappropriate disposal of waste, litter, manure and carcasses can be mitigated to a low level through the appropriate waste management of the farm and ensuring that no runoff or effluent from the farm enters the environment.

The farm is already operational and proceeding with a 24G Application to be legislatively compliant. A large amount of capital investment has been put into the farm and it will not be practical to decommission the farming facility and restore the environment, especially since grassland takes a very long time to restore. If mitigation measures are adhered to, the poultry farm can operate with very little significant environmental impact.

Overall, the likely impacts associated with the development are likely to be low and there are no anticipated impacts of high significance. Consequently, it is suggested that the project continue only if all recommended mitigation measures as per this ecological report, Risk Matrix and specialist studies of this application are adequately implemented and managed during the operational- and decommission phases of the project. All necessary authorisations and permits must also be obtained prior to any commencement.

The perceived impacts per the DWS Risk Assessment are anticipated to be Low. With suitable mitigation measures the impacts can be decreased, and operation activities should not have any significant impact upon the watercourse or surrounding environment. The activities fall within the regulated area of a wetland and proper authorization will need to be obtained before commencement of any activities.

The poultry farm and improper waste management and disposal have the potential to pollute downstream water sources. Correct waste management and disposal, stormwater management and disposal of dirty run-off water, installation of functioning sanitation and water supply is very important.

If mitigation measures are implemented, the likelihood of impacts occurring on downstream watercourses and the consequence of the impacts will be reduced to low levels.

Recommendations from the Environmental Assessment Practitioner

The impact of the unlawful commencement can be viewed as minimum, due to the already in place adherence to environmental management that Supreme Chicken follows. In addition to this the activities undertaken falls within an already cleared agricultural area.

It is recommended that Supreme Chicken complies with the Environmental Management Plan set out for these activities as well as continue to contribute to environmental good practices.

It is advised that Supreme Chicken perform annual monitoring of dust particulates to ensure compliance with the National Air Quality Standards.

Contents

ACRONYMS AND ABBREVIATIONS

BA	-	Basic Assessment
BAR	-	Basic Assessment Report
CBA	-	Critical Biodiversity Area
DEA&DP	-	Department of Environmental Affairs and Development Planning
DWS	-	Department of Water and Sanitation (previously known as DWA / DWAF)

EAP	-	Environmental Assessment Practitioner
EIA	-	Environmental Impact Assessment
EMF	-	Environmental Management Framework
EMPr	-	Environmental Management Program Report
ESA	-	Ecological Support Area
GDARD	-	Gauteng Department of Agriculture and Rural Development
GN	-	Government Notice
I&AP's	-	Interested and Affected Parties
NEMA	-	National Environmental Management Act
PSDF	-	Provincial Spatial Development Framework
SAHRA	-	South African Heritage Resources Agency

2 INTRODUCTION

Supreme Poultry (PTY) Ltd. (The Applicant) appointed Enviroworks, an Independent Environmental Assessment Practitioner (EAP), to undertake the Section 24G application process for the unlawful commencement of the development of a hatchery (Nov 1999), facilities for the concentration of animals (Poultry) (Jan 2005) as well as construction of a store, workshop, chemical store and 3 (three) housing units on Remainder of the Farm Belgie 1285, Bloemfontein, Mangaung Metropolitan Municipality. These developments trigger activities listed in terms of the Environmental Impact Assessment (EIA) Regulations, 2017 promulgated in terms of Chapter 5 of NEMA (National Environmental Management Act, 1998 (Act No. 107 of 1998)) and its regulations. Other relevant legislation as listed activities triggered include the EIA Regulations promulgated in terms of the ECA, Act No 73 of 1989 - GNR 1182 & 1183 and listing notice GN R. 327; of the EIA Regulations, 07 April 2017.

In terms of section 24G of NEMA, Supreme Chicken voluntarily submitted an application to illustrate their commitment to complying with the legal prescripts associated with the activities undertaken.

2.1 Purpose of this report

Unlawful commencement of the development of a hatchery (Nov 1999), facilities for the concentration of animals (Poultry) (Jan 2005) as well as construction of a store, workshop, chemical store and 3 (three) housing units on Remainder of the Farm Belgie 1285, Bloemfontein, Mangaung Metropolitan Municipality. Please note that this report was written together with the Application Form for the above named project and should be read in conjunction with it as the information in the Application document may supplement the Report and visa versa. This report was written as stated and required in Appendix 1 as found in the National Environmental Management Act EIA Regulations, as amended 7 December 2014.

Content of this report

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- **Introduction (Section 2).**
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- **Background to the project (Section 4)**
- **Receiving environment (Section 5).**
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2.2 Details of the Environmental Assessment Practitioner

Supreme Poultry (PTY) Ltd. (The Applicant) appointed Enviroworks, an Independent Environmental Assessment Practitioner (EAP), to undertake the Section 24G application process for the unlawful commencement of the development of facilities which includes the development of a hatchery (Nov. 1999), concentration of animals (Breeders farm) (Poultry) (Jan 2005) as well as construction of a store, workshop, chemical store and 3 (three) housing units on remainder of the Farm Belgie 1285, Bloemfontein, Mangaung Metropolitan Municipality. Enviroworks has no business, financial or personal interest in the facility and is therefore able to provide an independent, objective assessment.

The EAP who has compiled this report is Marius Venter and the report was reviewed by Christoff du Plessis (please see the CV's of the EAP and Review EAP below). The declaration of independence also follows after the CV's.

3 Details of the Environmental Assessment Practitioner

3.1 Details of the specialist

Name:	Marius
Surname:	Venter
Highest qualification:	BSc Conservation Ecology and Entomology (SU)
IAIA registered:	No. 10458590
SACNASP Candidate Scientist:	No. 117708
Postal address:	Enviroworks Suite 116 Private Bag X01 Brandhof 9324
Physical address:	103 Donald Murray Avenue Park West Bloemfontein 9301
Cell phone:	072 286 6683
E-mail:	marius@enviroworks.co.za

Relevant Qualifications

- BSc Conservation Ecology and Entomology (SU)
- Currently completing MSc in Environmental Management at the University of the Free State (2017-2018)

Registrations and Affiliations

SACNASP: 117708

IAIA International Registration: 10458590

Alien and Invasive Species Training Module 1: SAWC 2582

Alien and Invasive Species Training Module 1: SAWC 2741

Short Courses

2018: Intermediate GIS

2017: Wetland Management: Introduction and Delineation – WLID1502S
Introduction to GIS and GPS – GISA1500S

2016: SAGIC Invasive Species Training. Module 1: Introduction and Legislation Module 2: Developing and Implementing
Control Plans – SAWC 2582 & 2741

Work experience

- January - July 2017: Research assistant, University of the Free State (UFS)
- July 2018 - current: Environmental Consultant and legal assistant at Enviroworks

Key project experience

- Experience in 1) Compilation of documentation and report writing 2) Legal compliance and notices 3) Conducting ecological studies and reviews 4) Environmental Audits 5) Environmental Authorisations

Basic Assessment Applications

- Karan Beef-Proposed extension and construction of a new feedlot–Aliwal North, Free State Province

Section 24G Application for Rectification:

- Section 24 G Application for Authorization, Supreme Chicken, Portion 1285, Farm Belgie.

Ecological Impact Assessment Specialist Report Experience

- Ecological Impact Assessment: The proposed development of an oil recycling plant, near Lakeview, Mangaung, Free State
- Ecological impact assessment: Supreme Poultry, Bloemfontein, Free State
- Review Ecological Studies: 8 Ecological Studies reviewed for establishment of borrow pits for road construction by SANRAL
- Ecological Impact Assessment: Karan Beef-Proposed extension and construction of a new feedlot–Aliwal North, Free State Province
- Ecological Impact Assessment: Proposed construction of an iron/steel smelter at the Botshabelo industrial area on erf 173 and erf 188 within the Mangaung Metropolitan Municipality, Free State Province.

Wetland Delineation

- Wetland delineation and risk assessment for water use license application for the proposed Zachtevlei dam and bulk conveyance infrastructure, Lady Grey, Eastern Cape.

Legal Queries and Site Inspections

- The construction of a 9 km steel pipeline for irrigation at Witbank, Namakwa District Municipality, Northern Cape
- Proposed development of a waste water treatment works and associated pipeline on the remaining extent of erf no 424, Britsown, Northern Cape Province
- Request for conformation that the existing carpe diem farm operations is lawful / or not and if a section 24g rectification application will be required, Northern Cape Province
- Environmental subservices for the improvement of national route 7 section 2 between rooidraai (km 7.49) and moorreesburg (km 33.90)
- Environmental subservices for the improvement of national route 7 section 3 between piketberg (km 31.53) and piekenierskloof pass (km 65.3)
- The construction of a pipeline to pump water from a river into two dams at the Krugers post farm
- Proposed development of a security village and associated infrastructure on erf 3952 & 3975, Hartswater, Northern Cape Province
- 8 (eight) Development Option/Due Diligence Reports for Phunga Consulting Engineers in the Northern Cape Province

ECO - Environmental audits

- Mission Point Mine – Free State province
- The construction of a 132kv powerline between Tweespruit and Driedorp, Free State Province
- Road Construction – Molpro
- External Water Use Licence audit – Letsatsi PV solar power plant

3.2 Details of the specialist for review

Name:	Christoff
Surname:	du Plessis
Highest qualification:	Baccalaureus Scientiae (B.Sc.) in Environmental Geography: University of the Free State (2014)
Postal address:	Enviroworks Suite 116 Private Bag X01 Brandhof 9324
Physical address:	103 Donald Murray Avenue Park West Bloemfontein 9301
Cell phone:	082 495 2673
E-mail:	christoff@enviroworks.co.za

RELEVANT QUALIFICATIONS

Baccalaureus Scientiae (B.Sc.) in Environmental Geography: University of the Free State (2014)

Baccalaureus Scientiae (B.SC) Honours in Environmental Management: University of South Africa (2018)

WORK EXPERIENCE

January 2015 – Present: Environmental Specialist at Enviroworks

KEY PROJECT EXPERIENCE

ENVIRONMENTAL IMPACT ASSESSMENT EXPERIENCE

- Environmental Impact Assessment for the proposed 171ha expansion of Nalisview Cemetery in Bloemfontein on behalf of Mr. Jannie Nel.

BASIC ASSESSMENT EXPERIENCE

- Construction of 30 Broiler Houses and an Abattoir, Leipoldtville, Western Cape Province (Mocke Poultry).
- Dewetsdorp Reservoir System Augmentation, Dewetsdorp, Free State Province (Bloemwater).
- Construction of the Palmiet Truck Stop, Vrede, Free State Province (DeStudio Town Planning).
- Section 24G for the unlawful operation of a Recycling Centre, Swellendam, Western Cape Province (Agri-World
  Recyclers).
- Construction of a 3.2 kilometre pipeline and associated infrastructure, Olifantshoek, Northern Cape Province
  (Ghamagara Local Municipality).
- Construction of 4 telecommunication masts, Cape Town, Western Cape Province (Highwave Consultants).
- Installation of a 90 000l LPG Cylinder, Bloemfontein, Free State Province (EASIGAS).
- Installation of a 45 000l LPG Cylinder, East London, Eastern Cape Province (EASIGAS).
- Upgrade of Day-visitor facilities at Kraalbaai, West Coast National Park, Western Cape Province (SANParks).
- Development of the Phalaborwa Wildlife Activity Hub, Kruger National Park, Limpopo Province (SANParks).
- Periodic maintenance of National Route 2 Section 4 between Riviersonderend (Km 0.0) and Swellendam (Km 56.9), Western Cape Province (SANRAL).
- Proposed development of the Klein Mooimaak Rest Camp Facility, West Coast National Park (SANParks).
- Proposed development of the 35m Buffeljagsrivier Monopole Mast, Western Cape Province (Coast to Coast Towers).
- Compilation of a River Maintenance Management Plan for Bath River, Caledon, Western Cape Province (Theewaterskloof Local Municipality).
- Proposed development of a 12.5 ha cemetery, Grabouw, Western Cape Province (Theewaterskloof Local Municipality).
- Proposed development of Hostels and Orientation Centres, Mapungubwe National Park, Limpopo Province (SANParks).
- Proposed upgrade of the R27 Gate & Geelbek Restaurant, West Coast National Park, Western Cape Province SANParks).

- Proposed development of the 25m Joostenbergvlakte Monopole Mast, Western Cape Province (Coast to Coast Towers).
- Proposed development of 30 Chicken Houses and an Abattoir, Odendaalsrus, Free State Province (Chridel Consulting).
- Design, Rehabilitation / Improvement, Routine Maintenance works of N220: Chissano to Chibuto and N/C Crz. N220 to N1, Mozambique (World Bank).
- Proposed development of a Curro Castle on Portion 54 of the Farm Blue Hills No. 397, Midrand, Gauteng Province (Curro Holdings).
- Proposed development of a 25m Monopole Mast on Portion 25 of the Farm Klein Bottelary No. 17, Brackenfell,
  Western Cape Province (Coast to Coast Towers).
- Proposed development of a Housing Development in Hartswater, Northern Cape Province (Makerspace Architects).

EXPERIENCE IN PERMITS AND LICENCING

- Water Use License (General Authorisation) for the expansion of a cemetery by more than 2500 m2 (Jannie Nel).
- Water Use License for 30 Broiler Houses and Abattoir, Leipoldtville, Western Cape Province (Mocke Poultry).
- Waste Management License and Section 24 G report for Agri World Recycling, Swellendam, Western Cape Province (Agri-World Recycling).
- Water Use License (General Authorisation) for the construction of a 3.2km pipeline, Olifantshoek, Northern Cape
- Province (Ghamagara Local Municipality).

ENVIRONMENTAL CONTROL OFFICER (ECO)

- The construction of the Cecilia Park powerline and sub-station, Bloemfontein, Free State Province (Centlec).
- The construction of a dual carriageway and bridge from Mthatha up to and including the Ngqeleni interchange of
  Provinsial Road 61 Section 8, Eastern Cape Province.
- The construction of a road from Moretele to Khaukhwe, North West Province (Department Public Works).
- The construction of a 14km water pipeline, Botshabelo, Free State Province (Bloemwater).
- The construction of a sub-station, Bloemfontein, Free State Province (Centlec).
- The rehabilitation of bridges on National Route 14: Upington to Kuruman, Northern Cape Province (SANRAL).
- The rehabilitation of the Theekloof Pass, Fraserburg, Northern Cape.
- Annual Audit on the Waste Management License for Elgin Fruit Juice, Grabouw, Western Cape (Elgin Fruit Juice).

- Reseal of Diversional Road 1468, 1470, 1473 and Minor Road 5873 on behalf of Actophambili, Witzenberg, Western Cape Province.
- Reseal of Section MR 201 and MR 305 on behalf of Actophambili, Wolsely, Western Cape Province.
- Reseal of the National Route 1, on behalf of Actophambili, Leeu Ghamka, Western Cape Province (SANRAL).
- The widening of Pella Road on behalf of the City of Cape Town, Atlantis, Western Cape Province (City of Cape Town).
- The widening of structures over the Orange River on National Route 12 Section 9 near Hopetown, Northern Cape Province (SANRAL).
- The construction of a bulk water supply reservoir, Olifantshoek, Northern Cape Province (Ghamagara Local
  Municipality).
- Rehabilitation of the Donkergat Road within the West Coast National Park on behalf of BVI Procurement Management Engineers, Western Cape Province (Department of Defence & Department of Public Works).
- Periodic Maintenance of National Route 2 Section 4 between Swellendam and Riviersonderend, Western Cape Province (SANRAL).

VISUAL IMPACT ASSESSMENT (VIA):

- Phalaborwa Wildlife Activity Hub, Kruger National Park, Limpopo Province (SANParks).
- 4.9ha Sand Mine on Portion 5 of the Farm Doornekraal No. 830, Western Cape Province (Greenmined).
- Proposed development of the Harvard Powerline, Bloemfontein, Free State Province (Centlec).
- Proposed development of the 35 m Buffeljagsrivier Monopole Mast, Buffeljagsrivier, Western Cape Province (Coast to Coast Towers).
- Proposed development of the 25 m Robertson Monopole Mast, Robertson, Western Cape Province (Coast to Coast Towers).
- Proposed development of the Klein Mooimaak Rest Camp Facility, West Coast National Park (SANParks).
- Proposed development of a Sand Mine near Malmesbury, Western Cape Province (Greenmined).
- Proposed upgrade of the R27 Gate and Geelbek Restaurant, West Coast National Park, Western Cape Province
  (SANParks).
- Proposed development of the 25 m Roodekrans Monopole Mast, Krugersdorp, Gauteng Province (Coast to Coast
  Towers).
- Proposed development of a 25 m Monopole Mast on Portion 25 of the Farm Klein Bottelary No. 17, Brackenfell,
  Western Cape Province (Coast to Coast Towers).
- Proposed development of a Landfill Site on Portion 3 of the Farm Katbosch No. 93, Sasolburg, Free State Province (Metsimaholo Landfill).

- Proposed development of numerous visitor information centres at Schroda and Mapungubwe Hill, Mapungubwe
  National Park, Limpopo Province (SANParks).
- Proposed development of a 35 m Monopole Mast on Portion 13 of the Farm Van Aries Kraal No. 455, Grabouw,
  Western Cape Province (Coast to Coast Towers).
- Proposed development of a 25 m Monopole Mast on Erf 532, Gansbaai, Western Cape Province (Coast to Coast
  Towers).
- Proposed development of a 35 m Lattice Mast on Portion 7 of the Farm Jagersvlakte No. 292, Grabouw, Western Cape Province (Warren Petterson Planning).
- Proposed development of a 35 m Lattice Mast on Erf 532, Stanford, Western Cape Province (Warren Petterson
  Planning).

WETLAND DELINEATION STUDIES:

- Development of 13 borrow pits along National Road 8, Ladybrand, Free State Province (SANRAL).
- Development of a 12.5ha cemetery on Erf 4233, Western Cape Province (Theewaterskloof Local Municipality).
- Proposed development for the proposed Alfred Nzo Agri-Hub, Cederville, Eastern Cape Province (Department Public Works).

STORMWATER MANAGEMENT PLANS:

- Stormwater Management Plan for a Recycling Plant on Erf 5172, Swellendam, Western Cape Province (Agri-World Recycling).
- Stormwater Management Plan for the proposed Granite Mine on the Remaining Extent of the Farm Biesjesfontein No. 218, Springbok, Northern Cape Province (Greenmined Environmental).
- Stormwater Management Plan for the proposed development of Six Layer Hen Houses on the Remainding Extent of the Farm Helena 1492, Bloemfontein, Free State Province (Katawa Trading).
- Stormwater Management Plan for the Routine Maintenance of a Drainage System near Karatara, Western Cape
  Province (Garden Route District Municipality).
- Stormwater Management Plan for the Unlawful establishment of a Chicken Broiler Facility on Portions 10 and 11 of the Farm Blesbokfontein No. 558, Bronkhorspruit, Gauteng Province (Sintier Poultry).

OTHER EXPERIENCE

- Conducting the Public Participation Process on the Draft Management Plan for the Goukamma Nature Reserve
  Complex, Western Cape Province (Cape Nature).
- Compilation of an Environmental Management Plan and a Risk Assessment for the pressure testing of a 1 000 000 litre LPG Cylinder within the Port Elizabeth Harbour, Eastern Cape Province (EASIGAS).

- Compilation of an Environmental Management Plan for the development of two Billboards, Bloemfontein, Free State Province (Outdoor Network).
- Decommissioning Audit for the closure of a warehouse, Cape Town, Western Cape Province (Wheatherford).
- GIS mapping and technical for various projects, including the drawing of locality, sensitivity, and alien and invasive management maps.
- Public Participation Processes and assistance to several projects.

Declaration of Independence

I, Marius Venter, ID 940111 5136 088, declare that I:

- am an Environmental Consultant at Enviroworks;
- act as an independent specialist consultant in the field of Botany and Ecology;
- am assigned as specialist consultant by Enviroworks Consultants (Pty) Ltd. for this proposed project;
- I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference;
- remuneration for services by the proponent in relation to this proposal is not linked to approval by decision-making authorities responsible for permitting this proposal;
- the consultancy has no interest in secondary or downstream developments as a result of the authorisation of this project;
- have no and will not engage in conflicting interests in the undertaking of the activity;
- undertake to disclose to the client and the competent authority any material, information that have or may have the potential to influence the decision of the competent authority required in terms of the Environmental Impact Assessment Regulations 2017; and,
- will provide the client and competent authority with access to all information at my disposal, regarding this project, whether favourable or not.

_____

Marius Venter

I, Christoff du Plessis , 911126 5012 084 , declare that I:

- am an Environmental Consultant at Enviroworks;
- act as an independent specialist consultant in the field of Botany and Ecology;
- am assigned as specialist consultant by Enviroworks Consultants (Pty) Ltd. for this proposed project;
- I do not have or will not have any financial interest in the undertaking of the activity other than remuneration for work as stipulated in the terms of reference;
- remuneration for services by the proponent in relation to this proposal is not linked to approval by decision-making authorities responsible for permitting this proposal;
- the consultancy has no interest in secondary or downstream developments as a result of the authorisation of this project;
- have no and will not engage in conflicting interests in the undertaking of the activity;
- undertake to disclose to the client and the competent authority any material, information that have or may have the potential to influence the decision of the competent authority required in terms of the Environmental Impact Assessment Regulations 2017; and,
- will provide the client and competent authority with access to all information at my disposal, regarding this project, whether favorable or not.

_____

Christoff du Plessis

3.3 Public participation Process

A comprehensive **Public Participation Process** was undertaken to engage stakeholders and Interested and Affected Parties on the development. I&AP's has been informed of the Application for Rectification Process through an advertisement in one (1) local newspaper and poster notices that have been erected at strategic locations. The surrounding landowners have been informed of the unlawful commencement of activities by means of the distribution of comment forms and the Section 24G Report, as well as relevant Organs Of State.

Public Participation Process (PPP) is any process that involves the public in problem solving and decision-making and it forms an integral part of the Section 24G application. The PPP provides people who may be interested in or affected by the proposed development, with an opportunity to provide comments and to raise issues or concern, or to make suggestions that may result in enhanced benefits for the project.

Chapter 6, Regulation 39 through 44, of the EIA Regulations stipulates the manner in which public participation process should be conducted as well as the minimum requirements for a compliant process. These requirements include (but not limited to):

(a) Fixing a notice board at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken;

(b) giving written notice to—
  (i) the owners, or persons in control of, and occupiers of that land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (ii) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of rate payers that represent the community in the area;
  (iii) the municipality which has jurisdiction in the area;
  (iv) any organ of state having jurisdiction in respect of any aspect of the activity; and
  (v) any other party as required by the competent authority;

(c) placing an advertisement in—

- one local newspaper

The principle of Public Participation is that those who are affected by a decision have the right to be involved in the decision-making process i.e. the public's contribution will influence the decision. One of the primary objectives of conducting the PPP is to provide Interested and Affect Parties with an opportunity to express their concerns and views on issues relating to the proposed project. The principles of public participation are to ensure that the PPP:

- Communicates the interests of and meet the process needs of all participants
- Seek to facilitate the involvement of those potentially affected.
- Involves participants in defining how they participate.
- Is as inclusive and transparent as possible, it must be conducted in line with the requirements of Regulations 39 - 44 of the EIA Regulations.

The public participation for the Section 24G has been undertaken by Enviroworks, an Environmental Consulting company. A complete report on the Public Participation Process is attached in Appendix H.

3.4 Applicable Environmental Legislation

The following environmental legislation is applicable to the project.

3.4.1 The Constitution of the Republic of South Africa (Act 108 of 1996)

Section 24 of the Constitution states that:

Everyone has the right:

a) to an environment that is not harmful to their health or well-being; and
b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-
    i. prevent pollution and ecological degradation;
    ii. promote conservation; and
    iii. secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development

The current environmental laws in South Africa concentrate on protecting, promoting, and fulfilling the Nation's social, economic and environmental rights; while encouraging public participation, implementing cultural and traditional knowledge and benefiting previously disadvantaged communities.

3.4.2 National Environmental Management Act (Act 107 of 1998), as amended (NEMA)

The National Environmental Management Act 1998 (Act No. 107 of 1998), as amended, (NEMA), specifies that it is necessary for an Applicant to undertake an EIA, which meets the minimum requirements of section 24(7) of NEMA, where an activity requires permission by law. The minimum requirements of section 24(7) of NEMA are regulated by the EIA Regulations, of which the latest Regulations were promulgated in December 2014 (Government Notices R983 and R984). Since this facility commenced in September 2013, the previous EIA Regulations, viz. Government Notices R543, R544 and R545 of June 2010, as amended, is also applicable. The identified listed activities applicable to the facility are listed in **Table 1** below.

3.4.3 National Heritage Resources act

Protection of heritage resources surrounding the study area and those uncovered during the development phase by reporting to the nearest heritage authority. The development area exceeds five thousand square metres (5000m^2).

3.4.4 Occupational Health and Safety Act

Protection of workers on site through provision of Personal Protective Equipment's; Training and other health and safety amenities.

3.4.5 Environmental Impact Assessment Regulations (GN R. 982, R. 983 & 985) of December 2014, as amended

The project triggers listed activities as listed in GN R. 327.

3.4.6 National Water Act (Act No 36 of 1998)

Protection of water resources and where not possible relevant permits/licences will need to sort by the Client.

3.4.7 National Environmental Management: Biodiversity Act (10 of 2004)

Protection of biodiversity features and where not possible relevant permits will need to sort by the Contractor. Translocation of plants might also be needed as stated within the ecological impact assessment.

Table 1: List of activities requiring authorization

EIA Regulations promulgated in terms of the ECA, Act No 73 of 1989 - GNR 1182 & 1183: Between 1 April 1998 and 09 May 2002	ECA EIA Contraventions : Between 10 May 2002 and before end of day 02 July 2006	NEMA EIA Contraventions : On or after 08 December 2014
Activity 2 (d) (Belgie -Hatchery) The change of land use for grazing to any other form of agricultural use. Construction commenced on already existing agricultural land. As this land was used for planting of crops and grazing of livestock and currently the portion of land area used for a chicken hatchery facility this activity is triggered.	Activity 2 (d) (Belgie -Hatchery) The change of land use for grazing to any other form of agricultural use. Construction commenced on already existing agricultural land. As this land was used for planting of crops and grazing of livestock and currently the portion of land area used for a breeders facility this activity is triggered. Activity 3 (Belgie -Breeders) The concentration of livestock, aquatic organisms, poultry, and game in a confined structure for the purpose of commercial production, including aquaculture and mariculture. In the breeders farming facility 156 000 chickens are present. 24 Houses that contain roughly 6500 chickens per house. These chickens are confined and grown in order to be sold, therefore for commercial production.	Activity 5 The development and related operation of facilities or infrastructure for the concentration of – (ii) More than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days (v)More than 25 000 chicks younger than 20 days per facility situated outside an urban area Activity 8 The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2000 square metres or more. The project entails the operation of a hatchery outside industrial areas with a footprint of about 2.8 hectares which equals to roughly 28 800 square metres. The breeders farm contains four areas of 6 houses each. Each area has a footprint of roughly 2.5 Hectares which equals to 25 000 square metres. The four areas have the same layout and development footprint, which equals to 10 hectares, 100 000 square metres in total for the breeder houses.

4 BACKGROUND TO THE PROJECT

4.1 Property and location

In terms of Section 24G of NEMA, Supreme Chicken voluntarily submitted an application to illustrate their commitment to complying with the legal prescripts associated with the activities undertaken. Supreme Poultry is situated approximately 30 (thirty) kilometers from the closest city, Bloemfontein. Supreme Poultry is situated within the Free State Province of South Africa, as shown in Figure 1 (Locality Map).

Poultry production facilities have evolved significantly in recent years. Modern poultry production uses, expensive equipment and housing to accommodate large numbers of birds in high densities. A large number of variables influence the quality and production of eggs and Day-old Chicks (DOC's), including ventilation, temperature and feed mixtures. Modern poultry farms are susceptible to the spread of diseases and stringent bio-security methods are in place to avoid the transfer of diseases, including strict access control and adhering to the health regulations. No unauthorised entry onto the premises is permitted. The total area of the remainder of the farm Belgie 1285 are 265.7804 Hectares as stated on the title deed registration – Title deed number (T1560/2008). The main purpose of the farming activities as found on Belgie 1285 is to provide DOC's to the retail market (Contract growers) where after they are sent to the abattoir.

Project title:	Section 24G Application Supreme Poultry – Belgie Breeders and Hatchery					
Property location:	Belgie Breeders and Hatchery					
Farm/Erf name & number (incl. portion):	Remainder of the Farm Belgie 1285					
SG21 Digit code:	F00300000000128500000					
Co-ordinates:	Latitude (S):			Longitude (E):		
Entrance at the Hatchery	29°	8‘	50.98“	26°	25‘	53.01“
Office	29°	8‘	55.59“	26°	25‘	23.28“
Store	29°	8‘	58.27“	26°	25‘	24.00“
Chemical Store	29°	8‘	59.00“	26°	25‘	22.75“
Breeders House 1	29°	8‘	57.17“	26°	25‘	33.89“
Street address:	Remainder of the Farm Belgie 1285 (Lat: 29°*8*‘*55.59*“; Long: *26*°*25*‘*53.01*“)					
Magisterial District or Town:	Bloemfontein					
Closest City/Town:	Bloemfontein			Distance		±30 Km
Zoning of Property:	Agricultural					

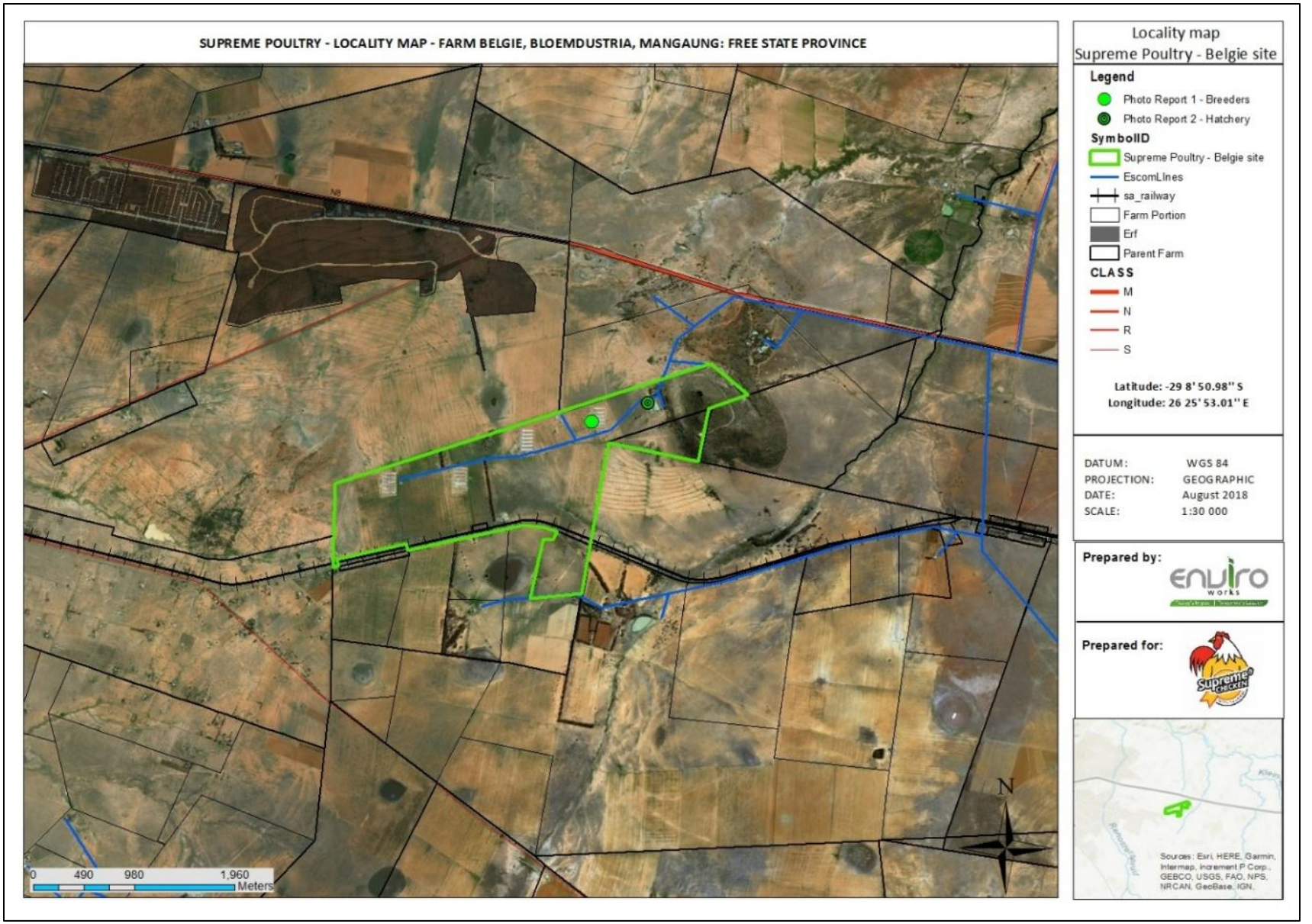


Figure 1: Locality Map – Supreme Poultry

4.2 Existing operations at the site

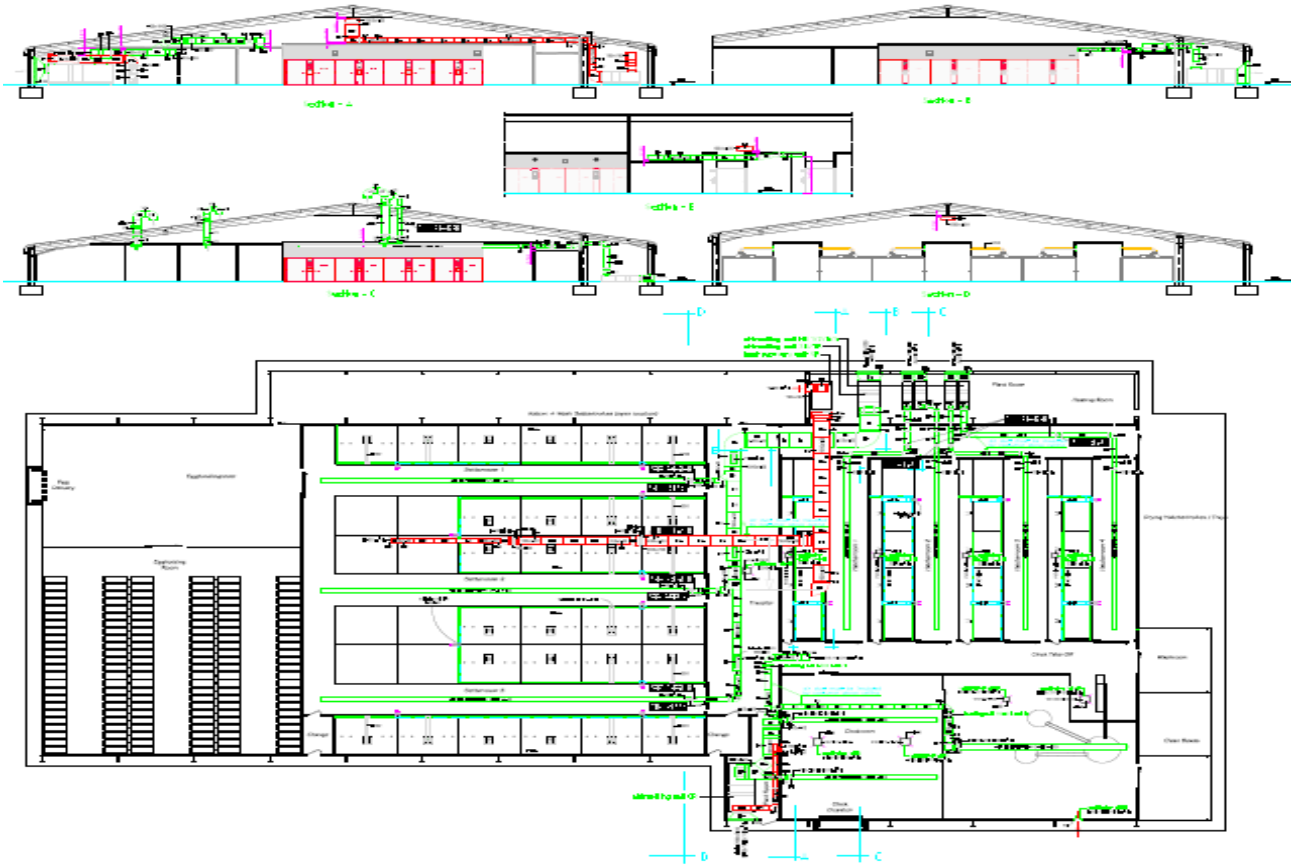


Figure 3 - Layout of the Hatchery.

The breeder houses contain successive generations of chickens of which adult chickens produce fertile eggs. After collection the eggs are sent to the Hatchery. The breeder houses are completely enclosed both walled and floored with ventilation systems in place. These houses are equipped with 24 Bosman Dryers (coal operated) at the breeders farm and one Bosman dryer and LP Gas heaters at the Hatchery to ensure optimum ambient temperature for egg production throughout the year, within the breeder houses, while one Bosman Dryer together with LP Gas heaters are used at the Hatchery. The feed is delivered by suppliers directly to the farm and pumped into the sealed silos elevated above ground level. The feed delivery inside the breeder houses is handled by conveyer belt systems.

Figure 4 -Breeder house and silo for feeding.

The eggs are collected by hand, fumigated and transported to the hatchery. The hatchery consists of a single storey facilities for incubation of fertile eggs provided from the breeder houses. The fertile eggs are hatched to produce DOC's for distribution to the retail and private broiler markets.

Coordinates

Longitude: 29° 8' 50.98'' S

Latitude: 26° 25' 53.01'' E

Project Description

Supreme Poultry (Pty) ltd undertook unlawful commencement of the following activities:

Development of chicken houses (Breeders): The Breeder site accommodates roughly 156 000 chickens. The chickens are brought in from 1 (one) day old, laying eggs on day 178 (One hundred seventy-eight) and is sold as cull chickens on day 448 (four hundred forty-eight). The eggs are sent to the hatchery. This area consists of 4 (four) areas of 6 (six) chicken houses each. Each chicken house accommodates roughly 6500 chickens. The breeding sites covers an area of approximately 2.5 hectares each with an approximate width of 115 meters and length of 230 meters. These houses are cleaned every 23 weeks in rearing and 40 weeks in laying. The cleaning of houses accumulates the bedding material, food (pellets) and manure from the houses and is collected and removed from the farm by a contractor. The construction of these activities was established on previously cultivated land. These chicken houses'

have heatcos' and fans that are used to regulate the heat in order to speed up their process of growing and to keep temperatures as constant as possible within the houses itself. There are 4 plots containing 6 houses each. The cleaning of houses include water and Immunovet chemicals (Appendix H).

Development of a Chicken hatchery: The hatchery accommodate a total of roughly 2 651 600 hatching eggs per month. The eggs are supplied from the breeding farm and hatches after 21 days. These chicks are transported to the growers on the same day and therefore does not stay on site for more than a day. There is one hatchery situated on the farm Belgie where all eggs are sent to. The development footprint is approximately two point eight (2.8) hectares with an approximate length of 196 meters and width of approximately 140 meters. The developed hatchery as situated adjacent to the Northern border of the farm and established in 1999. The distance between the nearest breeder house and hatchery is roughly 373 metres.

Offices, workshop, stores and houses: One office are located on the breeders farm while the other form part of the hatchery building. The part of the premises that contains the store, workshop and the chemical store have a development footprint of approximately one (1) hectare. The chemicals in the store are covered and protected from sunlight as well as consists of an impermeable concrete foundation.

Operational activities

Manure: The manure produced from the chicken lay houses (breeder farm) are strictly chicken manure and bedding material are used in the houses. 1000 tons of manure are removed by a contractor every four (4) months from each house after cleaning of the houses.

Mortalities: Much care is given to the overall well-being of the chickens throughout each production cycle. Strict disease control measures are implemented during the operation of both the hatchery and breeder houses. The mortalities are estimated to be around 6 chickens per day, which are stored in a fridge and collected by a lion farmer twice a week and given to lions for feeding. No carcasses are incinerated on the farm. Medical waste (vaccination of chickens) and egg debris are removed by a waste removal company (compass waste) while general wastes are taken to the local landfill site.

Disease Control: Visitors and cars entering the farm are disinfected at the gate. Visitors are limited to the office premises. All personnel entering the chicken houses are disinfected and provided with the safety clothes after showering themselves. The houses are kept clean and thoroughly cleaned and disinfected at the end of each production cycle. Houses are approximately 20 metres apart to prevent contact between chickens from different houses. Cleaners are disinfected as they move from one house to the other. The chemical matrix of disinfectants used for both the breeders and hatchery are attached as well as a gap management system.

Waste: Household solid waste from the existing poultry farm is removed and taken to a landfill site. Waste products from chickens (manure accumulated) in breeder houses are removed from the houses by private contractors. Hazardous substances are potentially poisonous, flammable, carcinogenic or toxic. The hazardous chemical substance inventory and table listings can be found attached. Chicken mortality are dealt with by a lion farmer while egg shells (debris) and medicinal wastes are dealt with by waste removal contractors.

Effluent water from the hatchery are led to the separation dams while the water from washing of the breeder houses are pushed onto the soil. While monitoring of water and water tests are done, it will be advisable for a stormwater management plan to be implemented at the breeder houses to lead waste water to the separation dams to prevent pollution (if required by department).

Water Use: The farm is dependent on municipal water while two boreholes are in use for cases of emergency while another three existing boreholes are not in use (dried boreholes). Separation dams are already established on site although the Water Use License Application is still in process. The water entering the dams are from the hatchery where after it is treated in the dams and sprayed onto the premises for irrigation. The total average water use for the hatchery is +- 3560.25 m^3 per month while the average water use for the breeders farm amounts to 42 996.8 m^3 per month. The water service are fitted with pumps and water is pumped into existing storage tanks at all buildings and breeder houses.

Figure 5 - Feeding silo and green water tank.

Electricity and Heating: Eskom electricity is currently used for the purpose of both cooling and heating with an average consumption of 197 264.25 kWh per month for the hatchery and 101 428 kWh for the breeders farm. Generators are used for emergencies and 24 Bosman Dryers (coal operated) are used for temperature regulation within the breeder houses while one Bosman Dryer together with LP Gas heaters are used at the Hatchery. The ash generated from the heatcos' are currently used on the farm to prevent rodents from entering the chicken houses. Ash from the heatcos' however will need to be tested in order to establish what the management process revolving this will be. Either to be used on the farm to fix roads, prevent rodents from entering the chicken houses etc. Or to be removed to a hazardous waste disposal site.

Figure 6 – Hot air system for heating of the breeders houses.

There are established dams present on the site for wastewater treatment in order to get the water as received from the hatchery on a standard to irrigate their premises. An application for a Water Use Licence has already been submitted.

As stated above, approximately one hundred and fifty six thousand (156 000) chickens are confined in chicken houses where they are fed with a balanced grain-fed diet to prepare them for slaughtering (breeding site). The period from intake into the chicken houses to disposal to the abattoir for slaughtering per chicken unit takes on

average 448 days and the eggs are send to the hatchery. At the hatchery the eggs hatch where after the chicks are sold to contract growers. The total development footprint of all existing constructed activities are approximately 14 hectares in size and includes the hatchery, breeder houses, offices, stores and workshop. The four dams for wastewater treatment are situated in an area of roughly 0.2 hectares.

Apart from the basic water and food requirements needed by the chickens, care is taken of the animal health, dust control, run-off management, cleaning of the chicken houses, disease control and the removal of manure.

Figure 7 - Dam four of the flow off water received from the hatchery.

Main issues include possible erosion and groundwater pollution due to the runoff water related to the cleaning of chicken houses. Ash generated from the heatcos are currently stored on site as well as the coal used for burning within the heatcos. All impacts associated with the operational phase can be mitigated.

4.3 Environmental management

Measures have been prescribed to mitigate and where possible prevent pollution in the Environmental Management Program, attached as Appendix H of this report. The hatchery and the breeders make use of waste removal contractor, see appendix H (Envirotech report). Supreme Poultry already maintains a register of waste streams, whereby old oil and hazardous waste, dead chickens, egg shells, ash from heatcos' to name a few of the waste collected on site, is removed by a waste management company, one of which is Envirotech. An AI control plan is already incorporated on site while an application for a Water Use License has already been submitted. Apart from the basic water and food requirements needed by the chickens, care is taken of the animal health, dust control, run-off management, cleaning of the chicken houses, disease control and the removal of manure. Main issues include possible erosion and groundwater pollution due to the runoff water related to the cleaning of chicken houses. Ash generated from the heatcos are currently stored on site as well as the coal used for burning within the heatcos. All impacts associated with the operational phase can be mitigated.

4.4 Motivation for this project

4.4.1 How has the facility benefited the local community?

As this is a local farming facility on a portion of land that was already degraded by means of agriculture, the benefits of the project as a whole is significantly greater than the negative impacts. The benefits are primarily focused on providing chicken, creation of job opportunities both during construction phase and operational phase as well as Local Economic Development. Supreme Poultry is a major supplier of chicken in South Africa. They contribute to job creation as well as sponsorships to local sports franchises. To date the socio economic impact of Supreme Poultry is that of a positive one, which will only continue to contribute the local community in a positive manner.

4.4.2 Need & Desirability

The activity is a need to the community as it improves the socio economic dimension of the area and nation through its' significant contribution to the GDP of the country while creating job opportunities to residents of the Mangaung Metropolitan Municipality. The Municipality currently has an unemployed figure of 27.7% (Statistics SA). The community and the area needs the activity as it contributes to job creation and Local Economic Development.

Supreme Poultry is one of the largest producers of chicken and accommodates about 156 000 chickens at the breeders site of the Belgie farm alone. The hatchery hatches about 2 651 600 eggs a month. Supreme Poultry must supply large tonnage of chicken daily all over South Africa.

The Free State Spatial Development Framework 2014 under section B 12.1 states that the agricultural sector contributes approximately 7% to the provincial GDP while 14% of South Africa's agricultural GDP is generated in the

Free State. Approximately 14.5% of South Africa's commercial farming takes place in the province. The Free State supports and gives effect to the objectives of the Comprehensive African Agricultural Development Programme (CAADP) which aims to combat Food insecurity caused by structural poverty and inequality. It further states that's improved food security relies on efficient government policies and sustainable agricultural practices that integrate the food economy into a rapid economic growth strategy which, in turn, manifests in enhanced benefit distribution.

The activity is needed and very beneficial to the community as it improves the socio economic dimension of the area and nation through the significant contribution to the GDP of the country while creating job opportunities to residents of the Bloemfontein area. Supreme Poultry, with inclusion of their feeds business, Nutri Feeds provides jobs in excess of 4000 people, provides chicken to South Africa, keeps farms in the Bloemfontein and Botshabelo areas in Free State as well as in North West Province.

As this activity was constructed on previously cultivated lands, destruction of natural indigenous vegetation and healthy environmental indicators was kept to a minimum. The activity is in line with the existing land use within the area, the location factors do favour the land use associated with the activity. The benefits of the project include employment creation and improving socio economic dimension of the area. Environmentally the area was already disturbed as per Heritage specialist. Therefore the benefits outweighs the negative impacts.

According to section 27 of South African constitution, everyone has the right to sufficient food and as a result of this activity no one are negatively affected. The described activities is outside the urban edge and fits into the rural/ farming of the area. There will not be any negative impact on the rural landscaping of the area and the area is already used for similar activities. The financial considerations of the developments was not disclosed by Supreme Poultry and and can be requested if necessary.

Measures have been prescribed to mitigate and where possible prevent pollution in the Environmental Management Program, attached as Appendix H of this report. Supreme Poultry already maintains a register of waste streams, whereby old oil and hazardous waste, dead chickens, egg shells, ash from heatcos' to name a few of the waste collected on site, is removed by a waste management company, one of which is Envirotech.

5 RECEIVING ENVIRONMENT

5.1 Topography

The Bloemfontein Dry Grassland vegetation type is characterized by a slightly undulating bottomland landscape covered with tall, dense grassland alternating with patches of karroid scrub occurring especially over calcrete. The general flow of water in the landscape is from north through an artificial impoundment in the stream, through the site and to south-east, where water joins the Matjiesspruit further downstream. (Please refer to the Ecological Specialist study).

5.2 Climate

The facility is situated in a summer rainfall region. The mean annual temperature is 16.00 °C in Bloemindustria. The mean annual rainfall is 526 mm. The driest months are May-September, with <11 mm monthly median rainfall. In January, the precipitation reaches its peak, with an average of 76 mm. January is also the warmest month of the year. The temperature averages 22.4°C. At 08.5 °C on average, June and July are the coldest months of the year

5.3 Surface water

In the natural state the quality of surface water in the water management area is good, particularly for the water which flows from the Highlands of Lesotho in the Senqu River. As for the rest of the rivers: water in the Caledon River is naturally of high turbidity and carries a concerning high sediment load; irrigation return flow has a major impact on salinity in the lower Riet River; water is transferred to the Riet River from Vanderkloof Dam, partly for blending and water quality management purposes; and, a natural pan below Krugersdrift Dam also adds salinity to the Modder River (DWAF, 2004).

The lower laying area on site are thus where surface and sub-surface water accumulate and flow through causing seasonal inundation of the soil. This explains the presence of mottles and the 'gleyed' – grey and shiny – surface of soil samples. The Rensburg form is common to lower laying areas of the landscape.

The downstream watercourses can potentially be at risk to increased surface runoff due to change in surface texture and effluent from the poultry farm. Chemicals, manure, pest control, waste, ash and litter can potentially pollute runoff and enter the watercourses and groundwater. This can have local and downstream negative impacts on fauna, flora, crops and water quality. The area is at relatively low risk of groundwater pollution. It is recommended that the borehole water quality be sampled quarterly (or as deemed fit by a water specialist) and surface water quality be evaluated annually (or as surface water is available) up and downstream of the property.

Table 2- Wetland classification.

Wetland classification Variable	Value	Description
Flow Regime	Seasonal/non-perennial	Most of the water flow is sub-surface. Surface water is only evident in rainy season
Ecostatus 1	11- Highveld (Nel et al. 2011).	
Wetland Type	Natural	
Level 3 of the National Wetland Classification System	Valley floor	Describes the landscape setting of the wetland.
Level 4 of the National Wetland Classification System	Channelled valley-bottom wetland	Describes the landform of the wetland.

5.4 Soils and geology

The soils of the study area are dominated by what for wetland identification and delineation is generally considered to be problematic soils. Problematic soils are those of the vertic and melanic groups where the low chroma of the

soils that are associated with these groups are not necessarily because of prolonged periods of saturation, but because of high organic content. For some soil profiles this proved to be problematic as the diagnostic A horizon would be deeper than the soil-wetness threshold of 550 mm, i.e. for such sampling sites it is difficult/not possible to apply the primary indicator for identifying and delineating wetlands, i.e. the soil-wetness indicator. However, in all instances the diagnostic A horizon of the melanic/vertic soils were underlain by a G horizon which in terms of soil genesis is a diagnostic indicator of prolonged periods of soil saturation. Such soils are of the Willowbrook (melanic soil) or Rensburg (vertic soil) soil forms and are per the wetland identification and delineation guidelines considered to be diagnostic indicators of wetlands (DWAF, 2008).

An NFEPA wetland is indicated to be present on site and was ground truthed during the site visit. Top soil consists of a sandy layer, with deeper soil becoming darker and have a high clay content. The deeper clay layers showed subsurface wetness and low frequency of mottles. Soil was classified as the Rensburg form. The Soil is characterised by a Vertic A horizon. This layer show high levels of swelling and cracking ability in times moisture fluctuation. It is commonly found in semi-arid to sub-humid climates, especially in lower lying landscape positions. They are pedologically charismatic, exhibiting slickensides. Typically dark coloured (sometimes red or grey), base-rich and chemically fertile, they are physically challenging to flora, fauna and crops but can be highly productive under careful husbandry, especially when irrigated. They support sweet natural veld and are strongly buffering towards water and chemical substances. The lower laying area on site are thus where surface and sub-surface water accumulate and flow through causing seasonal inundation of the soil. This explains the presence of mottles and the 'gleyed' – grey and shiny – surface of soil samples. The Rensburg form is common to lower laying areas of the landscape.

5.5 Air quality

An air impact study was conducted by Me. L.A Tsotetsi, herewith follows her findings and recommendations. (Attached as Appendix H):

The concentrations of SO2 at the Belgie Farm during the monitoring period were 3.77 µg/m3, 0.35 µg/m3, 2.12 µg/m3 and 2.04 µg/m3 and of NO2 were 0.16 µg/m3, < 0.16 µg/m3, < 0.16 µg/m3 and 1.08 µg/m3 for the sample codes L193G, L194G, L195G and L202G respectively. These levels are below the NEM: AQA annual standard for Sulphur dioxide (SO2) of 50 µg/m3 and Nitrogen Dioxide (NO2) of 40 µg/m3 respectively.

It is therefore concluded that the ambient Air Quality at Belgie Farm is well within the National Environmental Management: Air Quality Act's Ambient Air Quality Standards for SO2 and NO2 as priority pollutants.
It is therefore recommended that Supreme Poultry conduct annual monitoring to keep track of their ambient air quality.

5.6 Noise

Increased levels of noise, pollution, disturbance and human presence during operation and decommissioning of the poultry farm will be detrimental to resident fauna. Sensitive and shy fauna may move away from the area during these phases as a result of the noise and human activities. During the operational phase, interactions between the infrastructure considered here and fauna are likely to be very low. Fauna will most likely avoid the area due to human activity. The presence of live animals, animal feed and manure might attracts predators, scavengers and unwanted pests. Any pesticides used to control pests can be a source of pollution.

5.7 Plant and Animal Life

Refer to the Ecological specialist study (Appendix H):

5.7.1 Vegetation

The development footprint falls within the Bloemfontein Dry Grassland vegetation type which is a dry Highveld Grassland from the Grassland Biome (Mucina and Rutherford, 2006). The Bloemfontein Dry Grassland vegetation type is characterized by a slightly undulating bottomland landscape covered with tall, dense grassland alternating with patches of karroid scrub occurring especially over calcrete. (Mucina and Rutherford, 2006). It is dominated by semi-arid sweetveld that is drought-adapted and the majority of the vegetation reproduce from seed. Vegetation is mostly perennial and long-lived. The palatable veld makes grazing the preferred agricultural enterprise. Due to the low rainfall, the arable potential of the land is marginal and the growth rate of vegetation slow (SANBI, 2013). The particular area has been ploughed, and topsoil disturbed. This reduces the chances of the grassland recovering to a near-natural state (SANBI, 2013). Fragments of grassland remain between old cultivated lands. In terms of management, the vegetation type is vulnerable to encroachment by indigenous karooid shrubs and invasive woody species if fire should be surprised and grass biomass reduced (i.e. by vegetation clearance). The vegetation type is listed as Vulnerable according to the National List of ecosystems that are threatened and in need of protection (GN 1002 of 9 December 2012). Only roughly 1% of the vegetation type is statutory conserved and about 40% is transformed mostly by cultivation and urbanisation (Mucina and Rutherford, 2006). The main threats to the vegetation type is overgrazing, expansion of commercial cultivation and mining; quarrying and urban sprawl have more localised impacts in certain areas (SANBI, 2013). The area is classified as an Ecological Support Area 2 (ESA2). Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or for delivering ecosystem services, as determined in a systematic biodiversity plan. These areas should be maintained in a near natural state to ensure that they remain functional. Some loss of habitat can be tolerated. Considering the threatened status of the vegetation type, further fragmentation and transformation should be avoided in pristine areas (SANBI, 2013).

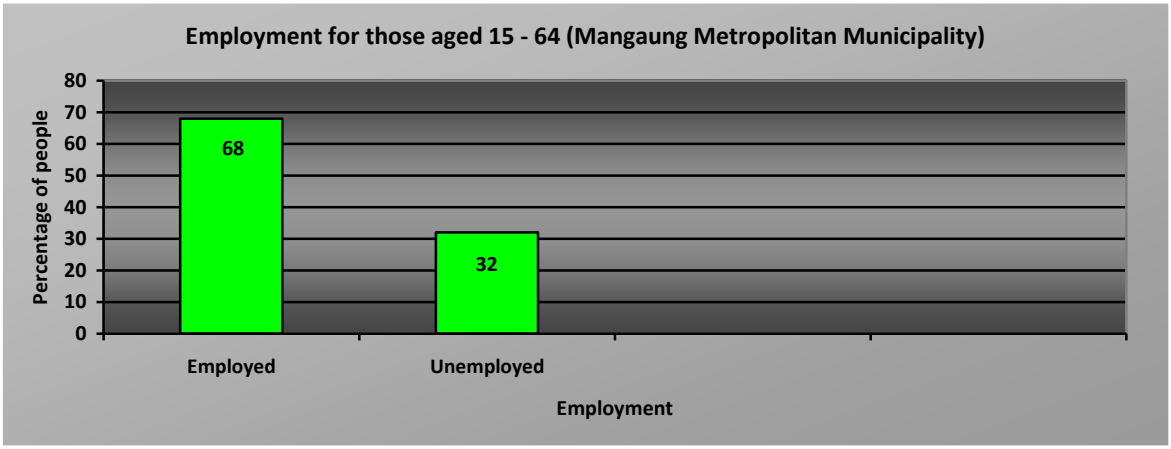
Overall the areas in which the chicken houses were constructed are dominated by weedy species that commonly occur in disturbed places. No species of conservation concern were found on the property and is unlikely to have occurred in areas were infrastructure were developed. Due to the slow growing nature of the grassland habitat, recovery of the old cultivated fields to near-natural grassland, representative of the adjacent Bloemfontein Dry Grassland is unlikely and no important vegetation species would have been lost during the construction phase of the project. (Please refer to table 12 in the ecological study for plant species that were encountered during the survey).

5.7.2 Animals

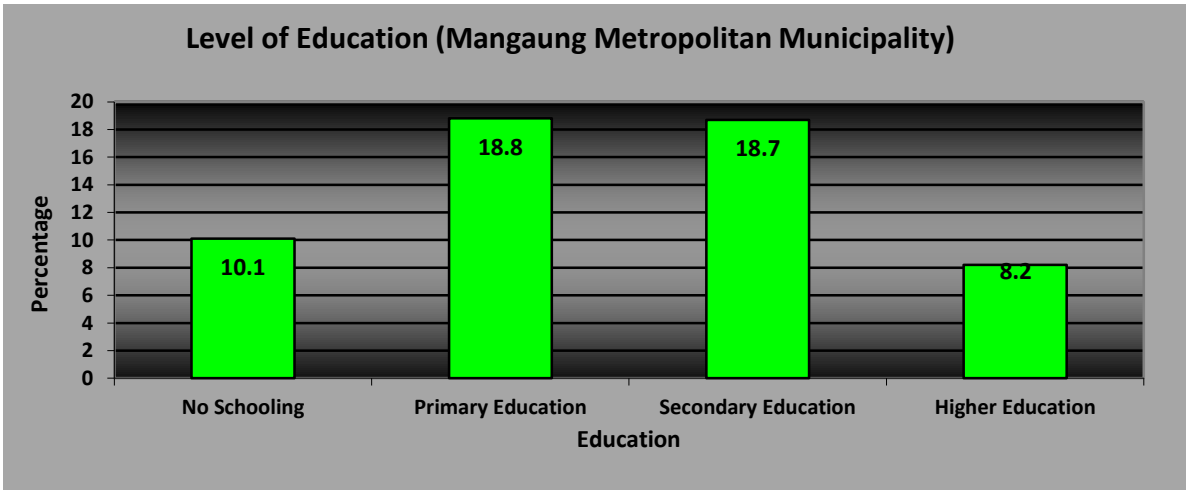
Species known to occur from the Quarter Degree Square (QDS, 2926AB) were extracted from the Animal Demography Unit website (ADU, 2018) and the Second South African Bird Atlas (SABAP2, 2018). No species of conservation concern have been observed in the QDS. Weaver nests and a ground dwelling bird nests were observed on the property and gives an indication that wildlife is able to use the available habitat. No listed dung beetles are found (DungBeetleMAP, 2018) in the QDS. No Neoroptera, Megaloptera, butterflies nor Odonata of conservation concern are known from the QDS (LacewingMAP, 2018; OdonataMAP, 2018; LepiMAP, 2018). Insects are mobile and can relocate from the development footprint to the adjacent intact vegetation. No listed spiders or scorpions are known to occur in the area and these species are presumed to move away from the construction site due to increased disturbance (ScorpionMAP & SpiderMAP, 2018). No amphibians or reptile of conservation concern are known from the QDS (FrogMAP, 2018; ReptileMAP, 2018). Several mammals of conservation concern are known from the QDS (MammalMAP, 2018), but due to the agricultural and transformed matrix which surrounds the property there is a lack of suitable habitat for the species listed in Table 14. It is very unlikely that the property will provide a suitable habitat for these species. The grassland on the property can however by used by domestic animals and smaller roaming mammals, as seen from evidence of their presence, i.e. a small burrow, cow dung and small droppings. No mammals were directly observed. The property and direct surrounds has a relatively low habitat diversity. The impacts on fauna life is likely to be low. Grassland habitat of similar quality is available on the farm in between and surrounding the poultry facility and fauna should be able to utilize the space.

5.8 Social

5.8.1 Socio- economic context (Pre Commencement)

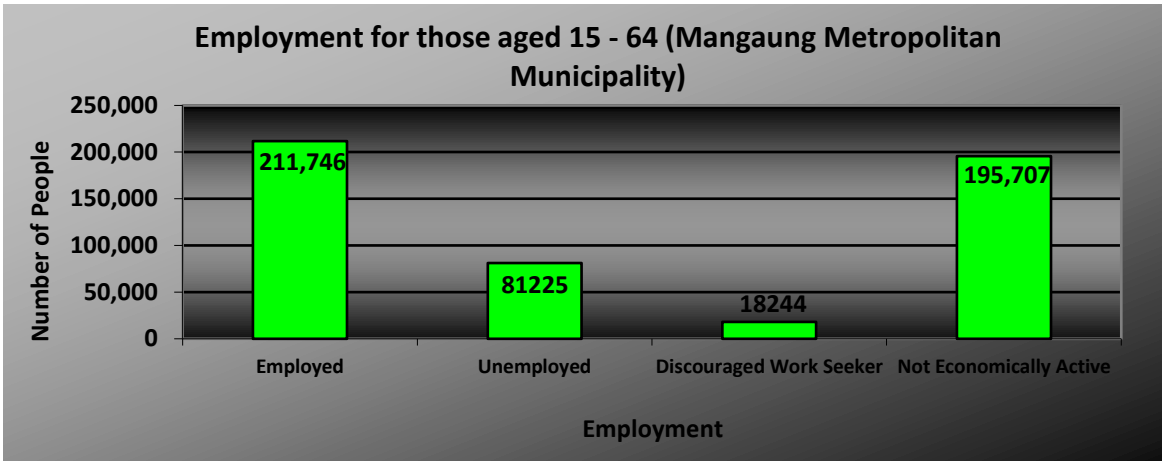


(Statistics South Africa)

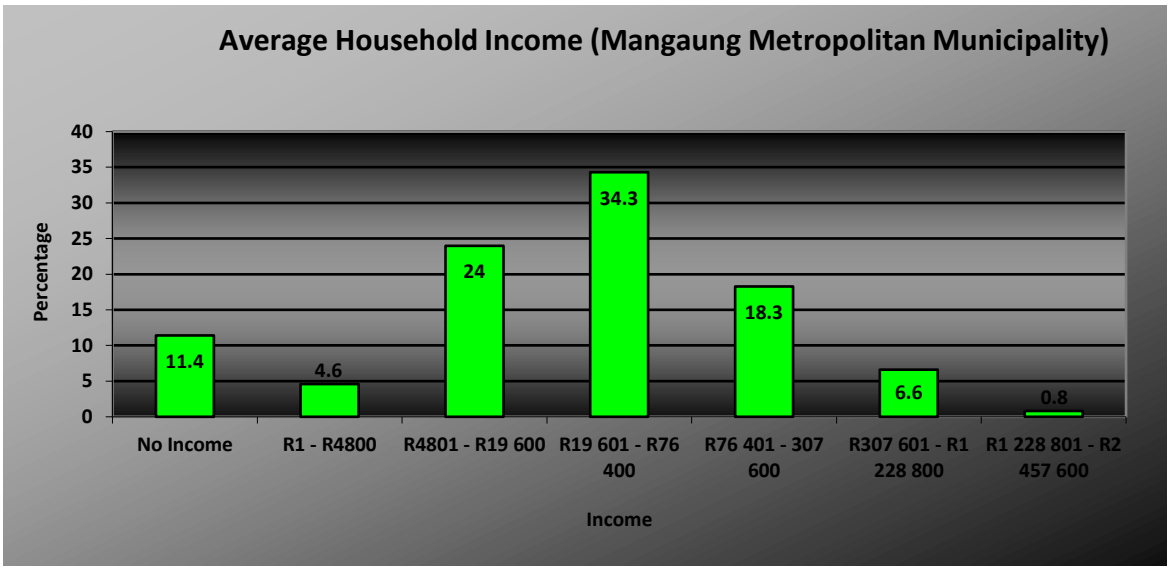


(Statistics South Africa)

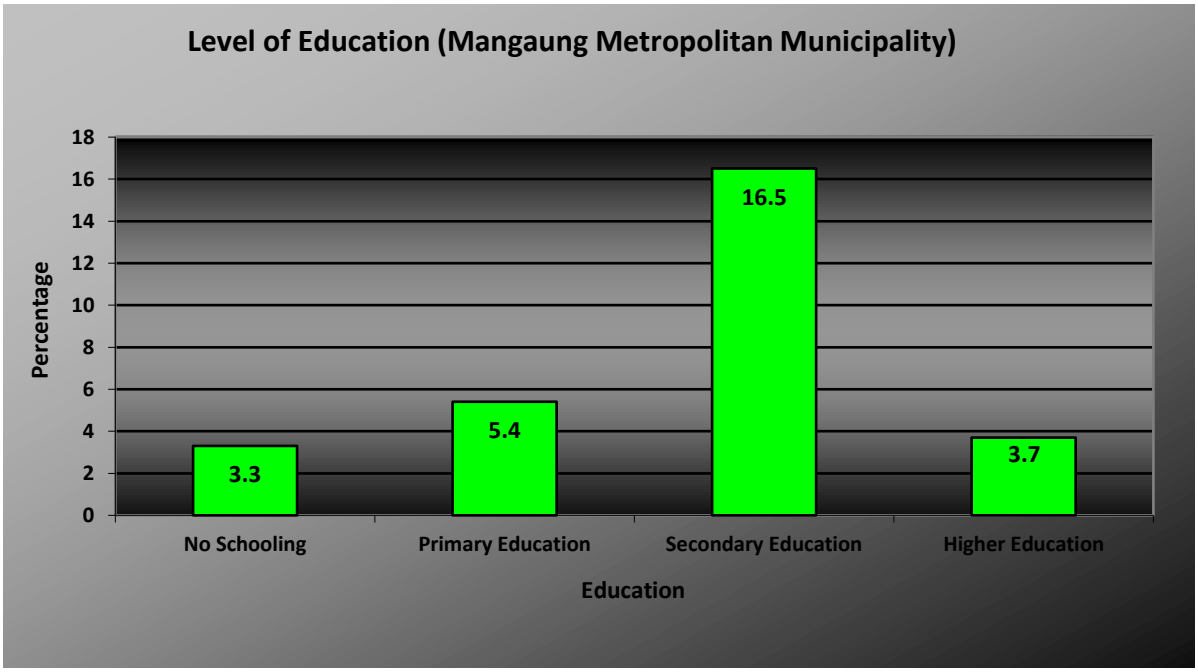
5.8.2 Socio-Economic context (Post-commencement)



(Statistics South Africa)



(Statistics South Africa)



(Statistics South Africa)

Additional to the figure above, the number of persons with a primary education constituted 28.9% in 1996 in the Mangaung Municipality. The numbers of the same cohort of completed primary and below for both Free State and Mangaung have drastically improved in 2011, with 28.7% and 22.4% respectively. The percentage of persons with some secondary schooling, but who have not passed matric has remained in mid-thirties for both Free State and Mangaung Metro over the entire review period (33.5% and 35.5% in 1996 and 34.7% and 33.2% in 2011 respectively), indicating mixed results for that section of schooling. The general indication is that people are able to proceed to secondary school, but are unable to complete their studies. The congestion in secondary school in terms of the level of education achieved is a prelude to problems in education system indicated by large dropouts at that level. However, the number of those completing secondary schooling for Free State and Mangaung Metro has increased from 13.5% and 18.7% in 2004 to 26.8% and 30.3% in 2014 respectively; which is an increase of 13.3 percentage points and 11.6 percentage points respectively. In terms of those with some skills, Mangaung Metro had a better advantage over Free State in terms of the number and the percentage of growth (5.9% to 9.8% and 8.2% to 14.2% respectively), is reflective of the economic advantage that Mangaung Metro has over the entire province.

5.9 Cultural and heritage

With reference to the Heritage specialist study the residual topsoils (Quaternary sediments) have been completely degraded as a result of prior agricultural and industrial activities. In accordance with the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) there is no above-ground

evidence to suggest that building structures older than 60 years or material of cultural significance or archaeological sites were affected within the demarcated area. The terrain in general is regarded as of low archaeological significance and is assigned a rating of Generally Protected C (GP.C). As far as the archaeological and palaeontological heritage is concerned, the development may proceed with no additional heritage assessments necessary, provided that all excavation activities are restricted to within the boundaries of the development footprint.

6 PUBLIC PARTICIPATION

6.1 Advertisement and Notice

Publication name	Volksblad	
Date published	10 April 2019	
Site notice position	**Latitude**	**Longitude**
Site Notice Supreme Poultry	29°7'15.24"S	26°14'18.23"E
Co-Ordinates: Filling Station	29° 7'15.24"S	26°14'18.23"E
Co-Ordinates: Shopping Centre (Spar)	29°7'15.24"S	26°14'18.23"E
Date placed	9 April 2019	

6.2. Adjacent land owners

Title, Name and Surname	**Affiliation/ key stakeholder status**	**Contact details (tel number or e-mail address)**
Reynardt Hercules Joubert	Adjacent land owner	061 036 0535
Gaenne J	Bathurst Nature Reserve	051 442 7081
F Weyers	Adjacent land Owner	083-254-3098/ weyers.f@gmail.com

6.3. Issues raised & comments and Response Report

Summary of main issues raised by I&APs	Summary of response from EAP
Please refer to Appendix E – PPP report	

6.4. Authority Participation

Authority/Organ of State	**Contact person (Title, Name and Surname)**	**Tel No**	**Fax No**	**e-mail**	**Postal address**
Mangaung Metropolitan Municipality (Environmental Officer)	Mpolokeng Kolobe	051 405 8577	-	Mpolokeng.kolobe@mangaung.co.za	PO Box 3704 Bfn, 9300

Mangaung Metropolitan Municipality (Town Planner)	Bekiwe Chake	051 405 8392	051 405 8707	bekiwe.chake@mangaung.co.za	PO Box 3704 Bfn, 9300
Department of Economic Small Business Development, Tourism and Environmental Affairs	Grace Mkhosana	051- 400 4812	051 400 4842	mkhosana@detea.fs.gov.za	Private Bag X 20801, Bloemfontein 9300
Department of Water and Sanitation, Free State	Dr TP Ntili	(051) 405 9000/ 072 303 7301	(051) 430 8146	ntilit@dws.gov.za	PO Box 528 Bloemfontein 9300
Department of Agriculture Free State	Mr Peter Thabethe	051 861 8423	051 861 8452	degracia@fs.agric.za	Private Bag X02, BLOEMFONTEIN, 9300
Heritage Free State	Ntando PZ Mbatha (Heritage Coordinator)	051 410 4750 / 066 479 2067	086 401 0431	mbatha.npz@sacr.fs.gov.za	Private Bag X20606, Bloemfontein, 9300
Department of Rural Development and Land Reform	Ms Makwadi Moloi	082 827 5988	-	Makwadi.Moloi@drdlr.gov.za	136 Charlotte Maxeke St, Bloemfontein Central, Bloemfontein, 9301

7. IMPACT ASSESSMENT

7.1. Methodology for Impact Assessment

For each potential impact, the EXTENT (spatial scale), MAGNITUDE, DURATION (time scale), PROBABILITY of occurrence, IRREPLACEABLE loss of resources and the REVERSIBILITY of potential impacts must be assessed by the specialist by using the results of their specialist studies. The assessment of the above criteria will be used to determine the significance of each impact, with and without the implementation of the proposed mitigation measures. The scales to be used to assess these variables and to define the rating categories are tabulated in Table 5 and Table 6 below:

Table 3: Evaluation Components, rankings scales and description (criteria*)*

Evaluation component	Ranking scale and description (criteria)
MAGNITUDE of NEGATIVE IMPACT (at the indicated spatial scale)	**10 - Very high**: Bio-physical and/or social functions and/or processes might be *severely* altered. **8 - High**: Bio-physical and/or social functions and/or processes might be *considerably* altered. **6 - Medium**: Bio-physical and/or social functions and/or processes might be *notably* altered.
	4 - Low : Bio-physical and/or social functions and/or processes might be *slightly* altered. **2 - Very Low**: Bio-physical and/or social functions and/or processes might be *negligibly* altered. **0 - Zero**: Bio-physical and/or social functions and/or processes will remain *unaltered.*
MAGNITUDE of POSITIVE IMPACT (at the indicated spatial scale)	**10 - Very high (positive)**: Bio-physical and/or social functions and/or processes might be *substantially* enhanced. **8 - High (positive)**: Bio-physical and/or social functions and/or processes might be *considerably* enhanced. **6 - Medium (positive)**: Bio-physical and/or social functions and/or processes might be *notably* enhanced. **4 - Low (positive)**: Bio-physical and/or social functions and/or processes might be *slightly* enhanced. **2 - Very Low (positive)**: Bio-physical and/or social functions and/or processes might be *negligibly* enhanced.
	0 - Zero (positive): Bio-physical and/or social functions and/or processes will remain *unaltered.*
DURATION	**5 - Permanent** **4 - Long term**: Impact ceases after operational phase/life of the activity > 60 years. **3 - Medium term**: Impact might occur during the operational phase/life of the activity – 60 years. **2 - Short term**: Impact might occur during the construction phase - < 3 years. **1 - Immediate**
EXTENT (or spatial scale/influence of impact)	**5 - International**: Beyond National boundaries. **4 - National**: Beyond Provincial boundaries and within National boundaries. **3 - Regional**: Beyond 5 km of the proposed development and within Provincial boundaries. **2 - Local**: Within 5 km of the proposed development. **1 - Site-specific**: On site or within 100 m of the site boundary. **0** - None
IRREPLACEABLE loss of resources	**5 – Definite** loss of irreplaceable resources. **4 – High** potential for loss of irreplaceable resources. **3 – Moderate** potential for loss of irreplaceable resources. **2 – Low** potential for loss of irreplaceable resources. **1 – Very low** potential for loss of irreplaceable resources. **0 - None**
REVERSIBILITY of impact	**5 –** Impact **cannot** be reversed. **4 – Low** potential that impact might be reversed. **3 – Moderate** potential that impact might be reversed. **2 – High** potential that impact might be reversed. **1 –** Impact **will be** reversible. **0 –** No impact.

PROBABILITY (of occurrence)	**5 - Definite**: >95% chance of the potential impact occurring. **4 - High probability**: 75% - 95% chance of the potential impact occurring. **3 - Medium probability**: 25% - 75% chance of the potential impact occurring **2 - Low probability**: 5% - 25% chance of the potential impact occurring.
	1 - Improbable: <5% chance of the potential impact occurring.
Evaluation component	**Ranking scale and description (criteria)**
CUMULATIVE impacts	**High**: The activity is one of several similar past, present or future activities in the same geographical area, and might contribute to a very significant combined impact on the natural, cultural, and/or socio-economic resources of local, regional or national concern. **Medium**: The activity is one of a few similar past, present or future activities in the same geographical area, and might have a combined impact of moderate significance on the natural, cultural, and/or socio-economic resources of local, regional or national concern. **Low**: The activity is localised and might have a negligible cumulative impact. **None**: No cumulative impact on the environment.

Table 4: Definition of significance ratings (positive and negative)

Significance Points	Environmental Significance	Description
125 – 150	**Very high (VH)**	An impact of very high significance will mean that the project cannot proceed, and that impacts are irreversible, regardless of available mitigation options.
100 – 124	**High (H)**	An impact of high significance which could influence a decision about whether or not to proceed with the proposed project, regardless of available mitigation options.
75 – 99	**Medium-high (MH)**	If left unmanaged, an impact of medium-high significance could influence a decision about whether or not to proceed with a proposed project. Mitigation options should be relooked.
40 – 74	**Medium (M)**	If left unmanaged, an impact of moderate significance could influence a decision about whether or not to proceed with a proposed project.
<40	**Low (L)**	An impact of low is likely to contribute to positive decisions about whether or not to proceed with the project. It will have little real effect and is unlikely to have an influence on project design or alternative motivation.
+	**Positive impact (+)**	A positive impact is likely to result in a positive consequence/effect, and is likely to contribute to positive decisions about whether or not to proceed with the project.

Once the evaluation components have been ranked for each potential impact, the significance of each potential impact will be assessed (or calculated) using the following formula:

- **SP (significance points) = (magnitude + duration + extent + irreplaceability +reversibility) x probability**

The maximum value is 150 SP (significance points). The unmitigated and mitigated scenarios for each potential environmental impact should be rated as per Table below.

The full Impact Assessment can be seen in appendix F.

7.3. Description of identified impacts and recommended mitigation measures

7.3.1. Potential Impacts during Operational Phase (Refer to Appendix F)

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Handling of general waste materials on the development site.	**Activity:** Waste is generated on site, if not disposed of correctly it will become a nuisance within the area.		No impact will occur as the development activities will not take place.
Significance rating:	**Medium (M)**	**Low (L)**	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• Waste must not be stored on site in excess of ninety (90) days; • All general waste must be disposed of at a registered landfill site as mentioned in the Section 24G Application/Report; • Carcasses will be stored on site for a period of one (1) week or shorter; where after, it will be collected by lion farmers within the area (twice a week); • Manure emanating from the development will be collected from the breeder farm and distributed to farmers within the area; • An adequate number of scavenger proof litter bins are to be placed throughout the site. Two waste bins at least must be present, one (1) for hazardous waste and one (1) for non-hazardous waste at each working site. Dumping of waste on site is prohibited; • Waste sorting and separation must form part of the environmental induction and awareness programme, to encourage personnel to collect waste paper, glass and metal waste separately; • Keep all work sites including storage areas, offices and workshops neat and tidy; • Dedicate a demarcated and signposted storage area on site for the collection of waste; • All domestic waste is to be removed from site and disposed of at a registered solid waste landfill site as mentioned in the Section 24G Application/Report; • Care must be taken to ensure that no waste fall off disposal vehicles on-route to the landfill. If needed, a tarpaulin can be utilised;		

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
	• The burning or burying of solid waste on site is prohibited. Do not burn PVC pipes or other plastic materials, as this is regarded as hazardous waste; • Littering by personnel shall not be permitted; • General refuse/rubbish shall be removed from site on a weekly basis to an approved registered landfill site or as soon as the waste bins are reaching full capacity; • Minimise waste by sorting wastes into recyclable and non-recyclable waste; • Hazardous waste must be sorted from non-hazardous waste and disposed of at a hazardous treatment facility, records and proof of disposal must be kept; and, • A register must be kept of the quantities of waste disposed and proof of disposal must be available at the site office.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Traffic impacts associated with the movement of vehicles within the area.	**Activity:** The regular movement of workers and business clients within the area increases traffic flow and impede vehicle movement.		No impact will occur as the development activities will not take place.
Significance rating:	**Medium (M)**	**Low (L)**	
Cumulative impact:	**-**	**-**	
Proposed Mitigation:	• Adequate parking must be provided for residents, visitors and business clients to ensure that vehicles are not parked within the road reserve; • All speed limits need to be adhered to.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Surface and groundwater contamination from the Hatchery and breeder Facilities as well as the stores and housing facilities.	**Activity:** Surface and groundwater can become contaminated due to operation of the hatchery and breeders facilities.		No impact will occur as the development activities will not take place.
Significance rating:	**Medium-high (MH)**	**Low (L)**	-
Cumulative impact:	**-**	**-**	-
Proposed Mitigation:	• Measures must be implemented to prevent the contamination of clean run-off from the site in order to protect the degradation of the drainage areas;		

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	**After Mitigation**	
	• Stormwater must be conducted in a manner which prevent soil erosion (i.e natural areas must be landscaped in order to ensure energy is removed from run-off); • Drip trays must be placed beneath all stationary operational equipment; • Hazardous substances must be stored within a bund area able to contain 110% of the volume of the substance stored within; • Water samples must be taken from the nearest borehole and be tested for any pollution, and monitored; • Should a spill occur on an impermeable surface such as cement or concrete, the surface spill must be contained using oil absorbent materials; • Infrastructure and separation dams to contain run-off from the hatchery and Breeders (if required by the department) area to contain contaminated run-off must be implemented on the premises; and, irrigation water from the dams must be of sufficient standard as stipulated by relevant legislation; • The run-off should be channelled along grassed filter channel to the separation dams; • Surface run-off from the Breeders and Hatchery should be collected in a drainage channel, with a sufficient cross-section. To prevent effluent being washed into a watercourse, all contaminated flow should be directed to stabilisation ponds (separation dams) for treatment; • The separation dams should be monitored regularly for leaks and should be repaired accordingly. • Wastewater from the Breeder farm houses must be lead to already existing wastewater treatment dams (if required by department). • Existing irrigation operations should be maintained. • The impact from irrigation with treated water on soils should be monitored and evaluated. • All surfaces that are susceptible to erosion, shall be protected either by cladding with biodegradable material or with the top layer of soil being seeded with grass seed/planted with a suitable groundcover. **HAZARDOUS CHEMICAL STORAGE** • Staff that will be handling hazardous materials must be trained to do so. • All hazardous chemicals must be properly stored in a secure, bunded and contained area.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Soil Compaction	**Activity:** Erosion and degradation of soil surrounding the breeders and Hatchery facilities as well as the stores.		No impact will occur as the development activities will not take place.
Significance rating:	**Medium (M)**	**Low (L)**	-

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
Cumulative impact:	-	-	-
Proposed Mitigation:	• The layout of the area should be optimised to limit the erosion potential; • Rehabilitate denude areas especially slopes with appropriate species and erosion protection measures (i.e. geo-textiles; rocks; topsoil mixtures as per specifications); • Limit overcrowding in chicken houses; • The separation dams should be monitored after rainfall to ensure that it does not flood.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Increased risk of veld fires.	**Activity:** Due to the presence of personnel and machinery in natural areas, fires can occur if not managed to the correct standard.		No impact will occur as the development activities will not take place.
Significance rating:	Medium (M)	Low (L)	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• The Applicant shall take all reasonable and precautionary steps to ensure that fires are not started as a consequence of the activities on site; • Ensure the work site is equipped with adequate firefighting equipment. This includes at least rubber beaters when working in veldt areas, and at least one fire extinguisher of the appropriate type irrespective of the site; • Workers must be adequately trained in the handling of firefighting equipment, and can include but not limited to: • Regular fire prevention talks and drills; and, • Posting of regular reminders to staff; • No open fires are permitted anywhere on site; • Do not store any fuel or chemicals under trees; • Do not store gas and liquid fuel in the same storage area (Hazardous substances to be stored in accordance with SANS); • Any fires that occur on site shall be reported to the ECO immediately and then to the relevant Authorities; • In the event of a fire, Supreme shall immediately employ such plant and personnel as is at his disposal and take all necessary action to prevent the spread of the fire and bring it under control; • Do not permit any smoking within 3m of any fuel or chemical storage area, or refuelling area. A designated smoking area must be established on site; and, • All vehicles must be fitted with at least one fire extinguisher (when applicable).		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
Nature of impact: Infestation of the area with Alien and Invasive Species Direct impact on Fauna and Flora as a result of vegetation clearance.	**Activity:** Implementation of an Alien and Invasive Management Plan in order to control and eradicate Alien and Invasive Species.		No impact will occur as the development activities will not take place.
Significance rating:	Medium (M)	Low (L)	-
Cumulative impact:	-	-	-
Proposed Mitigation:	***Clearing and Guiding Principles*** • Alien control programs are long-term management projects and should include a clearing plan which includes follow up actions for rehabilitation of the cleared area; • The lighter infested areas should be cleared first to prevent seed build-up; • Pre-existing dense areas should be left for last, as they probably will not increase in density or pose a greater threat than they are currently; and, • All clearing actions should be monitored and documented to keep track of which are due for follow-up clearing. • The buildings are established in an already disturbed areas. ***Clearing Methods*** • Different species require different control methods such as manual, chemical or biological methods or a combination of the two; • Care should be taken to ensure that the clearing methods used do not encourage further invasion. As such, regardless of the methods used, soil disturbance should be kept to a minimum. The vegetative stage of the plants should also be considered before clearing; • Fire is not a natural phenomenon in the area and should not be used in general for alien control or vegetation management at the site. Only *Cylindropuntia sp* should be destroyed by burning after removal, since these plants can spread vegetatively as well as with seed; and, • The best-practice clearing method for each species identified should be used. The preferred clearing methods for most alien species can be obtained from the Department of Water and Agricultural Affairs (DWAF) Working for Water website: http://www.dwaf.gov.za/wfw/Control/. ***Use of Herbicides for Alien Control***		

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
	Although it is usually preferable to use manual clearing methods where possible, such methods may create additional mechanical disturbance which may stimulate alien invasion and may also be ineffective for many woody species which resprout. Where herbicides are to be used , the impact of the eradication program on the natural environment should be minimised be observing the following: Area contamination must be minimised by careful, accurate application with a minimum amount of herbicide to achieve good control; • Care must be taken to prevent contamination of water bodies. This includes special care in storage, application, cleaning equipment and disposal of containers, product and spray mixtures; • Equipment should be washed where there is no danger of contaminating water sources and washings carefully disposed of in a suitable place; • To avoid damage to indigenous or other desirable vegetation, herbicides that would have the least effect on the indigenous vegetation should be used; • Droplet nozzles with a course spray pattern should be fitted to avoid drift of herbicides onto neighbouring vegetation; and, • The appropriate health and safety precautions should be followed regarding the storage, handling and disposal of herbicides.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Operation Activities may have a positive impact on the local and regional socio economic conditions.	**Activity:** The operational phase of the development creates employment opportunities for individuals from the Local Community.		No impact will occur as the development activities will not take place.
Significance rating:	+ Medium (M)	+ Medium (M)	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• Mitigation measures are not applicable as the impact is positive.		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Occupational Health and Safety.	**Activity:** During the operation phase, accidents, occupational diseases, ill health and damage to property can occur if pre-cautionary measures are not taken. Increased movement of vehicles may lead to increased accidents among local communities, site workers, construction workers (when applicable) and vehicle operators.		No impact will occur as the development activities will not take place. Cultural

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
			and Historical features of the development site will remain unaffected.
Significance rating:	Medium (M)	Low (L)	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• Ensure that PPE is available to Personnel; • Adhere to the Occupational Health and Safety Act; • Keep the first aid kit stocked; • Issue all workers with necessary health and safety items; • Potentially hazardous areas must be demarcated with danger tape; • Appropriate signage must be placed to caution Employees and contractors not to enter certain structures without Authorisation; • Regular safety inspections must be conducted to ensure that participants are equipped with necessary safety equipment; and, • All construction personnel to wear hard hats and reflector jackets at all times (when applicable).		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Air Emissions	**Activity:** The operational phase of the development creates Air Emissions by burning coal and gas by using Heatcos and LP Gas heaters.		No impact will occur as the development activities will not take place. Cultural and Historical features of the development site will remain unaffected.
Significance rating:	Medium (M)	Low (L)	-
Cumulative impact:	-	-	-

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
Proposed Mitigation:	• Ash contents need to be tested to determine if the ash can be used for reparation purposes on the farm, if it is hazardous, it should be taken to a hazardous waste facility, otherwise it may be used on the farm as with current operations. • Coal ash may be given to the brick making industries where they can be refined for further use (already done by Supreme). • To prevent leaching in to the soil and ground water, fly ash should be stored on a bunded area. • Stockpiled coal should be watered, enclosed or covered to prevent from being blown by wind. • For coal fired heatcos, dry scrubber should be used to reduce the amount of sulphur content		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Noise nuisance generated by site operations.	**Activity:** Noise nuisance that may be created by the operation and maintenance work.		No impact will occur as the development activities will not take place. Noise features of the development site will remain unaffected.
Significance rating:	**Low (L)**	**Low (L)**	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• Limit working hours of noisy equipment to daylight hours; • Ensure that Employees and maintenance staff conduct themselves in an acceptable manner while on site, both during work hours and after hours.		
IMPACTS	**Preferred Layout Alternative**		**No-Go Alternative**
	Before Mitigation	**After Mitigation**	
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			

IMPACTS	Preferred Layout Alternative		No-Go Alternative
	Before Mitigation	After Mitigation	
Nature of impact: Dust Generation	**Activity:** Dust Generation		No impact will occur as the development activities will not take place.
Significance rating:	**Low (L)**	**Low (L)**	-
Cumulative impact:	-	-	-
Proposed Mitigation:	• Implement dust suppression measures by watering (or acceptable methods) areas to be cleared as well as already exposed surfaces with damaged soil particles, particularly during dry, windy periods (when becoming a problem on the farm); • Ensure all vehicles remain on designated roads; • Dust masks are to be supplied to workers; • Access roads are to be kept clean;		
POTENTIAL IMPACTS ON GEOGRAPHICAL AND PHYSICAL ASPECTS:			
Nature of impact: Disease Control	**Activity:** Disease control		No impact will occur as the development activities will not take place.
Significance rating:	**Medium-high (MH)**	**Low (L)**	
Cumulative impact:	-	-	
Proposed Mitigation:	• Ensure proper water drainage around facility. • Facility must be cleaned regularly. • Concrete floors must remain sealed to limit the pooling of water. • Adequate ventilation must be ensured for the flooring, bedding and feed. • Pest control measures must be taxon-specific. • Abide to already existing AI Control and Action Plan		

7.3.2. Potential Impacts during Decommissioning Phase

The activity will not be decommissioned in the future and therefore the proposed impacts thereof were not assessed.

8. ENVIRONMENTAL MANAGEMENT PROGRAMME

The Environmental Management Plan with mitigation measures for the triggered activities and activities taking place on site of Supreme Poultry can be viewed in Appendix H.

9. ALTERNATIVES

Chicken houses and hatchery: The current footprint area of the hatchery and breeder farm is approximately 14 ha in size. The layout and site selection for both the hatchery and breeder houses are preferred. The reason for this is due to the fact that this area was previously cultivated agricultural lands which means that it was already degraded prior to construction. The surrounding areas are also degraded due to agricultural activities.

Advantages on the selected site:

- Consideration has been given to the layout of infrastructure to ensure minimum disturbance on vegetation, even though situated in a degraded area.
- Where possible infrastructure was placed on the areas most degraded, keeping vegetation intact enhancing the visual absorption capacity.
- As per the findings of the Heritage Specialist it is ensured that no development occurred within a Heritage Sensitive area as there is no evidence of historical structures in the demarcated area.

Technology used at the site are being upgraded as technology improves to be as energy and output efficient as possible. A gas operated heating system within the breeders houses was used in the past, where after it was upgraded to coal operated heatcos. This decision was based on financial expenditure rather than considering the environment. This heating method is implemented in most chicken hatchery and breeders facilities countrywide. No specific site alternative was considered as the construction of the site already took place and the operational phase already took effect.

10. PERMITS OBTAINED

Supreme Poultry has submitted a Water Use License application in 2018 as per the National Water Act, 1998 Act 36 of 1998) for remainder of the Farm Belgie 1285. Proof of the application can be seen in Appendix H.

11. STORM WATER MANAGEMENT

Effluent water from the hatchery are led to the separation dams as found on the site premises while the water from washing of the breeder houses are pushed onto the soil (See MSDS attached in appendix H). While monitoring of

water and water tests are done, it will be advisable for a stormwater management plan to be implemented at the breeder farm to lead waste water to the separation dams to prevent pollution (if required by department). The quantity of water pushed out of the houses is minimal, but a stormwater management plan may be necessary if required by the department. At the breeders farm no stormwater management plan is present.

12. PROFESSIONAL APPRAISAL

12.1. Socio Economic Impacts

Supreme Poultry is a major supplier of chicken in South Africa. They contribute to job creation as well as has donations and sponsorships. To date the socio economic impact of Supreme Poultry is that of a positive one, which will only continue to contribute the local community in a positive manner.

12.2. Impact on biodiversity & Sense of place

There is a minimal impact on the sense of place and the biodiversity due to the current operations footprint. The development is in an already disturbed area. The activity was undertaken within an area previously used for agricultural purposes and as it has no significant detrimental impacts on the environment.

Minimum pollution was created during the unlawful commencement of the activities, as Supreme Poultry follows a strict policy to minimise waste and through current monitoring measure in place for general housekeeping and waste disposal.

12.3. Gaps in knowledge

The impacts assessment process undertaken, has been based on a number of informative processes which are as follows:

- Remainder of the Farm Belgie 1285, Bloemfontein, Mangaung Metropolitan Municipality was assessed on 26 July 2018.
- A desktop mapping component allowed for the integration of sensitive ecological areas like critical biodiversity areas into the assessment process and illustrated important conservation planning features asserted to the surrounding landscape, thus providing a strategic level overview of strategies for development planning.
- Specialist studies allowed to gather information on various aspects, such as the Air Impacts, Ecological Sensitivity of the Area and Ground water.
- A Public Participation Process (PPP) has enabled for the engagement with the public and Organs of State to solicit hidden knowledge and articulate interests and concerns relating to the proposed development.

- A consideration of the needs and desirability of the development has provided means to ascertain whether it serves the interests of sustainable development and does not result in unacceptable impacts or opportunity costs.
- Finally, the identification of gaps in knowledge, uncertainties and limitations, has conveyed important shortcomings which may have been coupled to the assessment processes and other areas to ensure that the transparent and mindful process is procure.

As such, the findings of this assessment as determined to represent a consolidation of these contributions and as such are deemed to be adequate.

12.4. Specialist Recommendations

12.4.1. Air Quality

It is recommended that Supreme Poultry conduct annual monitoring to keep track of their ambient air quality (As recommended by the Air Quality specialist).

12.4.2. Ecological Study

It is suggested and recommended that all mitigation measures as per ecological report, Risk Matrix and specialist studies of this application are adequately implemented and managed during the operational- and decommission phases of the project.

12.5. Recommendations from the EAP

The impact of the unlawful commencement can be viewed as minimum, due to the already in place adherence to environmental management that Supreme Poultry follows. In addition to this the activities undertaken falls within an already cleared agricultural area.

It is recommended that Supreme Poultry complies with the Environmental Management Plan set out for these activities as well as continue to contribute to environmental good practices.

It is advised that Supreme Chicken perform annual monitoring of dust particulates to ensure compliance with the National Air Quality Standards. A storm water management plan for the Breeders farm is recommended as well as ash testing. Ash from the heatcos' however will need to be tested in order to establish what the management process revolving this will be. Either to be used on the farm to fix roads, prevent rodents from entering the chicken houses or to be removed to a hazardous waste disposal site.

13. Appendices

Appendix	**Cross out ("☒") the box if Appendix is attached**
Appendix A: Location map	x
Appendix B: Site plan(s)	x
Appendix C: Owner(s) consent(s)	x
Appendix D: Photographs	x
Appendix E: Permit(s) / license(s) from any other organ of state including service letters from the municipality	N/A
Appendix F: Additional Impact Assessment Information	X
Appendix G: Report on alternatives	N/A
Appendix H: Any Other (describe) – Specialist studies/PPP report/EMPr/Additional information	X
Appendix I: Signed declaration of Applicant (as included in the Application form)	X