EnviroKey Management Services cc.

WATER USE LICENSE TECHNICAL ASSESSMENT

For the

Taking of Water from a Water Resource

Walkerville Poultry Farm

Submitted to: Department of Water Affairs

March 2013

Envirokey Ref: 12S07

Prepared by:

EnviroKey

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Executive Summary

Introduction

This Technical Report is being submitted as supporting documentation for the Water Use License Application for the proposed poultry farm to be located on Holding 255 Walkers Fruit Farms Agricultural Holdings. The property is located within the jurisdiction of the Midvaal Local Municipality and is approximately 10 hectares in extent.

The proposed water use is required for the operation of the proposed poultry farm. The poultry facility is expected to initially house 120 000 birds per cycle. Generally, a cycle is six weeks. The facility will gradually be built up over a period of five years to eventually have the capacity to house 360 000 birds per cycle.

Legal Framework

This application is being lodged with the Department of Water Affairs to obtain the relevant water use license in terms of Section 21(a) of the National Water Act (Act 36 of 1998) for the proposed taking of water from a water resource (abstraction of water from a borehole).

In addition to this Water Use License Application, the Applicant is also undertaking an Environmental Authorisation Application and Basic Assessment Process in terms of the National Environmental Management Act (Act 107 of 1998), as amended. The proposed activity triggers several listed activities in terms of Regulation 544, 2010 and as such requires environmental authorisation. The Basic Assessment Process is being undertaken in accordance with the requirements of the EIA Regulations (Reg. 543 of 2010).

Baseline Environment & Impact Assessment

The description of the environmental status quo addresses various aspects of the receiving environment, including climate, geology and topography, vegetation, hydrology, archaeological and culturally important sites, land use and visual nature. The Basic Assessment Process includes the undertaking of an impact assessment and the findings thereof have been included in this report. In addition, a geohydrological investigation must be undertaken to determine the impact that the proposed abstraction of water from the borehole will have on groundwater resources in the area and to ensure that there is sufficient capacity. Data must be analysed and an aquifer risk assessment and classification should be included. A public participation/stakeholder engagement process is being undertaken in accordance to the requirements outlined in Section 54 of the EIA Regulations (Reg. 543 of 2010).

Way Forward

This Draft Technical Report will be made available to stakeholders and Interested and Affected Parties for review and comment. Any comments received will be addressed within the Final Report and the Issues Report which is compiled as a component of the Basic Assessment Report. Once the WUL Technical Report has been finalised, it will be submitted to the relevant authority (Department of Water Affairs) for comment and approval.

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Abbreviations

BAR	Basic Assessment Report
DWAF	Department of Water Affairs and Forestry
DWA	Department of Water Affairs
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
GA	General Authorisation
GDARD	Gauteng Department of Agriculture and Rural Development
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Parties
NEMA	National Environmental Management Act (Act 107 of 1998)
NWA	National Water Act (Act 36 of 1998)
SAPA	South African Poultry Association
WMA	Water Management Area
WULA	Water Use License Application

1 Introduction

Envirokey Management Services cc has been appointed by Ms. A. A. Naicker to apply for a water use license authorisation (WULA) for the proposed abstraction of water from a borehole for use in the operation of a poultry farm as required in terms of the National Water Act [NWA] (Act 36 of 1998).

Environmental Authorisation has also been applied for in terms of the National Environmental Management Act [NEMA] (Act 107 of 1998), as amended and the Environmental Impact Assessment (EIA) Regulations of 2010 (Reg. 543 and 544) for the proposed establishment of a poultry farm in the Walkerville, Vereeniging area. The Environmental Authorisation (EA) application has been submitted to the Gauteng Department of Agriculture and Rural Development (GDARD).

This Water Use License Application and Technical Assessment is being lodged with the Department of Water Affairs (DWA) to obtain the relevant license in terms of Section 21(a) of the National Water Act (Act 36 of 1998) for the proposed taking of water from a water resource for use in the operation of the proposed poultry farm located on Holding 255 of the Walkers Fruit Farms Agricultural Holdings, Walkerville, Gauteng Province.

This report will provide the necessary information as required by the delegated authority, the Department of Water Affairs, regarding the details of the applicant, the background of the water resource and all other aspects relating to the water use as required for decision making to authorise the required water use.

2 Background

2.1 Project Details

The proposed water use is required for the establishment of a poultry farm. The proposed development includes the establishment of a poultry farm and associated infrastructure, as well as a residential unit to house the family. The poultry facility is expected to initially house 120 000 birds per cycle. Generally a cycle is six weeks. The facility will gradually be built up over a period of five years to eventually have the capacity to house 360 000 birds per cycle. The chickens raised at the poultry farm will be supplied to a local contractor. A detailed description of the activity and the related infrastructure is provided in Section 3 of this report.

The requested water use authorisation is for the taking of water from a water resource. The applicant will clean and fit the existing borehole on the property with the required equipment in order to provide water for consumption by the chickens, as well as for the required cleaning of the facilities. The proposed residential unit will not utilise the borehole water as it will be connected to the available services in the area. The identified water use is described in detail in Section 3.3 of this report.

The property falls under the jurisdiction of the Midvaal Local Municipality and is located within the Upper Vaal Water Management Area (WMA 8), Quaternary Drainage Area C22E.

2.2 The Applicant

The contact details of the Applicant are provided in Table 1 below. The applicant and the landowner are one and the same entity.

Table 1: Contact details of the Applicant.

Name of Applicant:	Ms. A. A. Naicker
Physical Address:	139 Craneflower Road, Savannah Hills Estate, Midrand, 1686
Postal Address:	P.O. Box 11745, Vorna Valley, Midrand, 1686
Contact number:	072 650 1177
Contact email:	ann.naicker@vodacom.co.za

2.3 Project Environmental Assessment Practitioner

Envirokey Management Services cc is the independent environmental consultancy appointed to undertake the required Environmental Authorisation Application and Water Use License Authorisation for the proposed poultry farm. The contact details and experience of the Environmental Assessment Practitioner (EAP) undertaking the Water Use License Authorisation are provided below.

Table 2: Contact details of the EAP undertaking the WULA.

Name of EAP:	Lyzanne de Bruin
Company:	Envirokey Management Services cc
Qualifications:	MSc in Environmental Management
Associations:	International Association for Impact Assessments (IAIA)
Postal Address:	PO Box 11101, Vorna Valley, Midrand, 1686
Contact number:	011 468 1440
Contact email:	lyzanne@envirokey.co.za

Lyzanne de Bruin, the author of the Water Use License Technical Report, is an environmental consultant working for Envirokey Management Services cc and is project managing the Environmental Authorisation Application and the related Water Use License Application for the proposed development. Ms de Bruin has five years working experience in the field of environmental consulting and is a member of the International Association for Impact Assessments (IAIA). Ms de Bruin has an MSc (Environmental Management) from the University of Johannesburg. Lyzanne de

Bruin is working under the supervision of an experienced EAP, Ms Sharon Meyer. Ms Meyer has 13 years experience and affiliations to IAIA. Ms Meyer has a BSc Honours (Geography & Environmental Management) and an MSc (Zoology) and is registered as a professional natural scientist with the South African Council for Natural Scientific Professionals, (*Pr. Sci. Nat.* 400293/05).

3 Project Description

3.1 Property Description

The study site is located on Holding 255 of the Walkers Fruit Farms Agricultural Holdings (Portion A of a portion of the Farm Varkensfontein 53 IQ) in the Walkerville area, Gauteng Province. The property is 10 hectares (9.9929ha) in extent and is owned by the Applicant (Title Deed T009045103/2012). Access to the site exists via Meyerton Road to the north-east of the site. The site can also be accessed from Foothill Road to the south-west of the site. The property falls within the jurisdiction of the Midvaal Local Municipality. A locality map is provided in Figure 1 and an aerial image of the site is provided in Figure 2.

The site is currently vacant and is zoned for "Agricultural Use" in terms of the Walkerville Town Planning Scheme, 1994. Permitted uses include agricultural buildings and agricultural land. Furthermore, uses permitted with the consent of the Council include service industry, farm shop, place of instruction, place of public worship, animal institution, game farming and commercial uses subservient and related to the main use. Conditions in the Title Deed indicate that the Holding may be used only for the purpose contemplated by the definition of an "Agricultural Holding", contained in the Agricultural Holdings (Transvaal) Registration Act, 1919. The definition reads as follows:

> *"Agricultural Holding" shall mean a portion of land not less than 8 565 square metres in extent used solely or mainly for the purpose of agriculture or horticulture, or for breeding or keeping domestic animals, poultry or bees.*

The property is furthermore located within a Conservancy area (Thorntree Conservancy). Municipal services such as water, sewer and electricity exist in the area, however, the study site is, as yet, not connected to these.

In terms of biodiversity, the property is described as containing mostly natural veld in good condition. *Hypoxis hemerocallidea* and *Ledebouria revoluta* were identified on site. These medicinal plant species will be relocated to another portion of the property should they be at risk from the proposed infrastructure development. Although the property is 10 hectares in extent, the development footprint is expected to cover approximately seven (7) hectares. No wetlands or watercourses are located on the property or within 500m of the development footprint boundary. Surrounding land uses include agricultural practises, vacant land, conservation areas and some light industrial/commercial operations.

A copy of the Title Deed and Zoning Certificate are included in Appendix B.

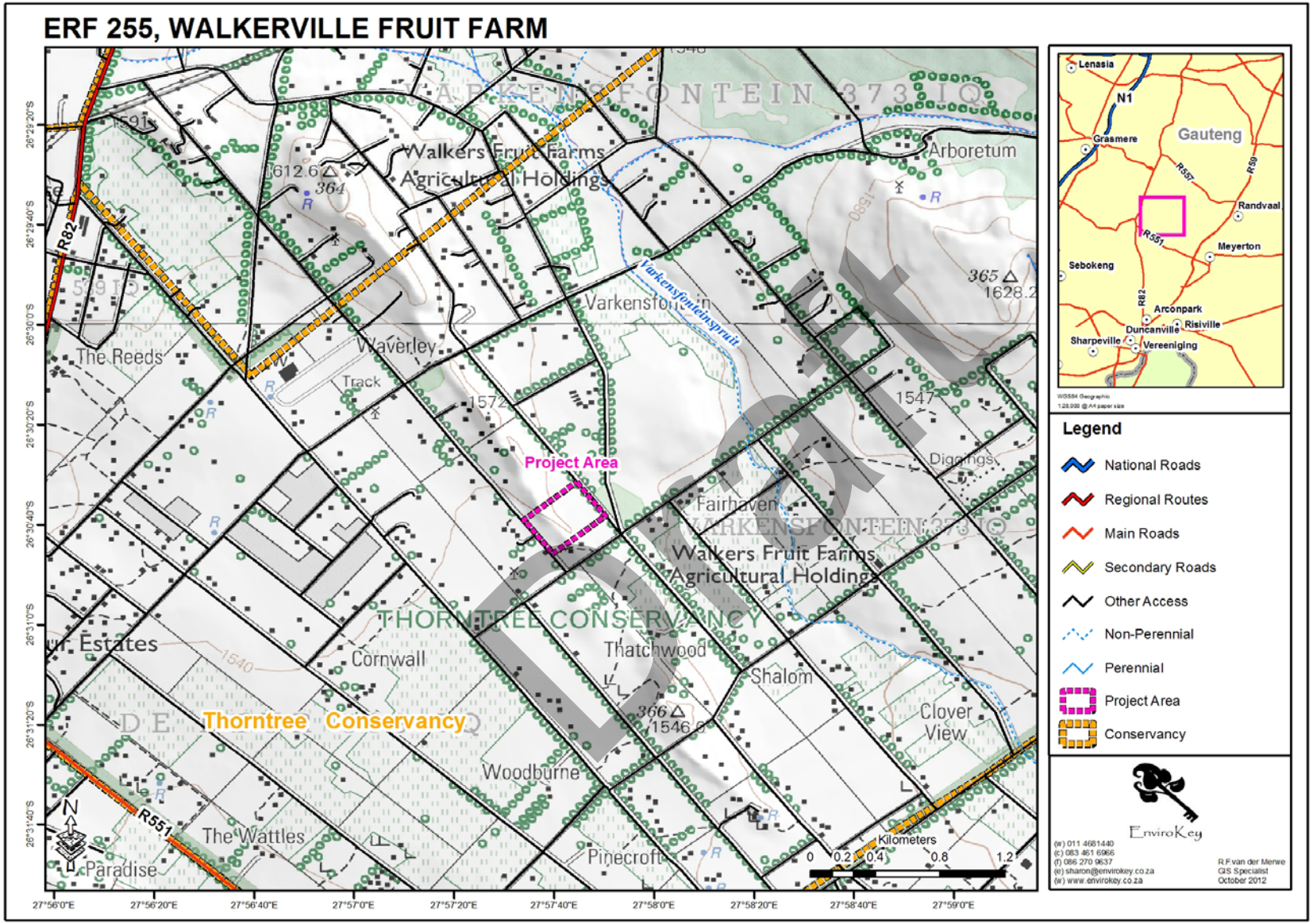

Figure 1: Locality map illustrating the location of the proposed development site, Holding 255 of the Walkers Fruit Farms Agricultural Holdings (Source: Envirocam, 2012).

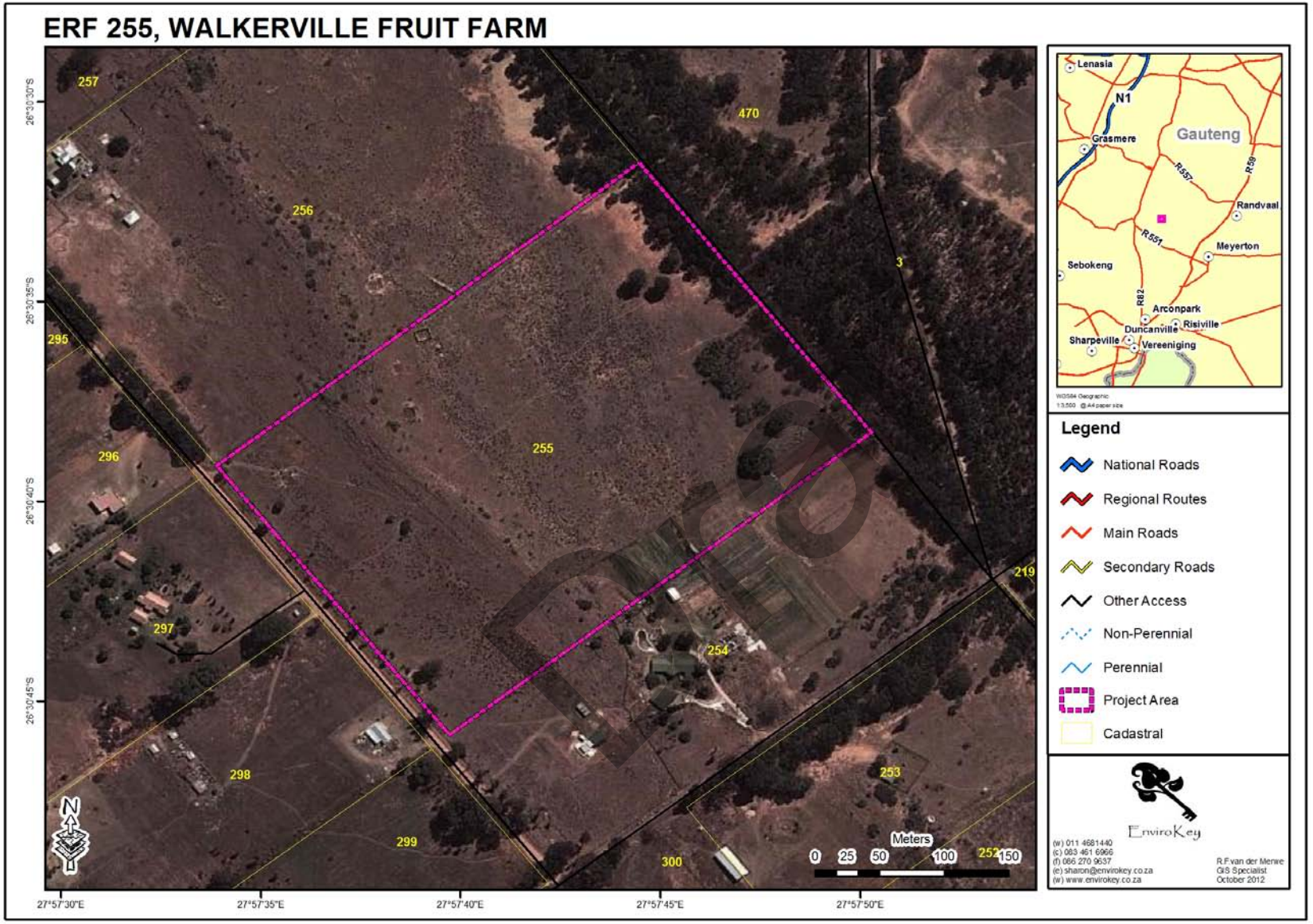

Figure 2: Aerial image illustrating Holding 255 Walkers Fruit Farms AH (Source: Envirocam, 2012).

3.2 Activity Description

The proposed activity is the establishment of a poultry farm initially housing 120 000 birds per cycle. This capacity will gradually be increased over a period of five years to 360 000 birds. The development will initially house three chicken coops (approximately 120m x 15m in size) with all the amenities conducive to raising chickens. The coops will be fully automated (computerized) in terms of climate control. Once expansion plans are implemented, an additional six coops will be constructed. The coops envisioned for this project will be South African Poultry Association (SAPA) specific coops.

The stock (day old chicks) is provided by the contracted client (providing clean stock with no diseases). The young birds arriving at the facility will be placed in rings in close proximity to feed and water supply until they are large enough, at which time they will have access to the entire barn. These facilities generally have litter floors. The chickens will be raised for meat production. Generally, the production process consists of rearing day old chicks into fully fledged adult chickens, at which point the birds are sold back to the contracted client. Raising the birds generally occurs over a six week period. Thereafter, two weeks are scheduled for cleaning and administration purposes in preparation for the next cycle of birds.

It should be noted that the adult birds are sold back to the contractor live. No chickens will be slaughtered on the premises.

Safe hygiene practices will be incorporated, including the regular cleaning of the coops in order to minimise the risk of disease. Good nutrition and vaccination of the stock will also assist in keeping the stock healthy.

In addition to the poultry farm, the Applicant will also construct a residential unit on the property to house the family. The Local Municipality will be approached to connect the residential unit to the existing water, sewer and electricity services in the area. It is anticipated that the entire property will be fenced.

3.3 Water Use

An existing borehole is located on the property. The borehole is 60 metres deep and yields about 5 000 litres of water per hour (according to the borehole certificate attached in Appendix B). The borehole is currently not in use and will need to be cleaned and a pump installed prior to being utilised for the purposes of the poultry farm. It is proposed to use the borehole water for the operation of the poultry farm, i.e. watering the birds and cleaning of the coops. The residential structure will be connected to the local municipal water supply in the area.

The estimated water volumes that will be abstracted from the existing borehole on the proposed poultry farm are described below (calculations are provided in Appendix C):

1. For the first three years, 120 000 birdss will be raised per cycle. The estimated water volumes per cycle are as follows:
    - Week 1 to Week 6: Approximately 7 500 litres (7.5m^3) per day; and
    - Week 7 to Week 8: Approximately 3 000 (3m^3) litres per day.

Therefore, for the entire 8-week cycle the water abstraction volume is expected to be approximately 357m^3. This translates to an approximate volume of **2 320.5m^3 of water abstracted per annum** for the first three years of production (at 120 000 birds per cycle).

2. Once the development has expanded to **240 000 birdss per cycle** (from the third year), the proposed water abstraction is estimated to double to **4 641m^3 per annum**.

3. The same reasoning is applied to the final capacity of **360 000 birds per cycle**, and the assumed water abstraction is expected to be **6 961.5m^3 per annum**.

4 Legal Assessment

4.1 National Water Act (Act 36 of 1998)

The National Water Act 36 of 1998 (NWA) identifies eleven (11) consumptive and non-consumptive water uses which must be authorised under a tiered authorisation system. This authorisation system includes scheduled uses, general authorisations (GA) and water use licences. It allows for the "Reserve", defined in the NWA as the: 'quantity and quality of water required to protect aquatic ecosystems in order to secure ecologically sustainable use of the water resource'. Furthermore, the NWA provides for the public consultation processes in the establishment of strategies and decision-making and guarantees the right to appeal against such decisions.

Section 27 of the NWA specifies that the following factors regarding water use authorisation must be taken into consideration:

- The efficient and beneficial use of water in the public interest;
- the socio-economic impact of the decision whether or not to issue a licence;
- alignment with the catchment management strategy;
- the impact of the water use; and
- investments made by the applicant in respect of the water use in question.

The proposed taking of water from a water resource (abstraction of water from a borehole) to use in the operation of the proposed poultry farm requires licensing in accordance with Section 21(a) of the Water Act.

The following WUL Application forms have been submitted with this report:

i. DW756 – Registration/Licensing Part 1 – Individual;

ii. DW760 – Registration/Licensing Part 2 – Section 21(a) of the National Water Act: Taking water from a water resource;

iii. DW901 – Supplementary water use information – Property where water use occurs; and

iv. DW902 – Supplementary water use information – Details of property owner.

v. DW784 – Supplementary water use information – Pump Technical Data

Supplementary form DW784 (Taking water from a water resource – pump technical data) has not been completed in its entirety as a pump for the borehole must still be purchased and installed. There is currently no pump. These application forms have been included in Appendix A.

4.2 Existing Lawful Uses

No existing lawful uses are registered for the property which is currently vacant and the proposed new development (establishment of the poultry farm) will require the first water use for the site. This proposed water use must, therefore, be licensed in accordance with the National Water Act (Act 36 of 1998).

4.3 General Authorisations

The NWA makes provision for certain General Authorisations (GA) for which no water use license is required. The General Authorisations replace the need for a water user to apply for a license for the undertaking of specified water uses provided that the use is within the conditions stipulated in these authorisations. Consultation with the DWA official has indicated that the proposed volumes of abstraction exclude the activity from the General Authorisations and, therefore, a water use license must be applied for.

4.4 Additional Legislative Requirements

The proposed development also requires Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998), as amended. The proposed poultry farm triggers various listed activities as provided in Listing Notice 1 (Reg. 544) of the Environmental Impact Assessment Regulations, 2010. The proposed activity triggers the following listed activities:

- Listing Notice 1, Activity 5 – *"Construction of facilities and infrastructure for the concentration of: (i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days"*.
- Listing Notice 1, Activity 8 – "*The construction of a hatchery or agri-industrial infrastructure outside industrial complexes where the development footprint covers an area of 2 000 square metres or more".*
- Listing Notice 1, Activity 23 – *"The transformation of undeveloped, vacant or derelict land to (i) residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares"*.

An application for Environmental Authorisation has been lodged with the Gauteng Department of Agriculture and Rural Development (GDARD) and the Basic Assessment has been undertaken. The Draft Basic Assessment Report has been made available for public review and comment after which it will be amended accordingly and the Final Basic Assessment Report will be submitted to GDARD for review and decision-making. A copy of the Record of Decision will be provided to the DWA once obtained.

5 Section 27 Motivation

Section 27 of the National Water Act provides considerations which need to be addressed by the applicant and the authority for the issue of licenses. Section 5 of this report will provide the available information as required in terms of Section 27 to be addressed in a water use license application.

5.1 Existing lawful water uses (Section 27[1a])

Communications with the Department of Water Affairs have indicated that there are no existing lawful uses currently registered for Holding 255 Walkers Fruit Farms Agricultural Holdings. The proposed abstraction of water required for the operation of the proposed poultry farm will require the first water use license for this property and as such needs to be licensed in accordance with the requirements of the National Water Act (Act 36 of 1998).

5.2 Need to redress past racial and gender discrimination (Section 27[1b])

Section 27(1b) of the NWA requires information on the contribution that will be made to rectify the results of past racial and gender discrimination.

The applicant, Miss A. A. Naicker, is the sole owner of the proposed poultry business. The farm is 100% BEE (African female of coloured descent) and female-owned.

It is expected that the proposed development will initially provide approximately 20 to 25 new job opportunities within the area during the construction and operational phases. The number of employment opportunities will grow as the capacity of the facility expands. It is anticipated that the establishment of the poultry farm will provide not only employment opportunities, but also training opportunities and apprenticeships for potential young entrepreneurs. This will aid in improving the social well-being of local communities.

However, in order for this development to proceed, it is necessary to obtain the appropriate water use license to proceed with the operation of the poultry farm.

Employment Opportunities

The construction phase for the proposed poultry farm is expected to provide approximately 20 new employment opportunities. Of this amount, it is anticipated that 50% of the opportunities will be for women and 10% will be for people with disabilities. Moreover, it is anticipated that 100% of the expected value of the employment opportunities during the development phase (R1 000 000.00) will accrue to previously disadvantaged people.

During the operational phase of the development, approximately 25 new employment opportunities will be created (of which 50% will be filled by women and 10% by people with disabilities), with 100% of the expected current value of the employment opportunities during the first 10 years accruing to previously disadvantaged people.

Skills Development and Training

During the construction phase various levels of skilled and unskilled labour opportunities will exist. The opportunity also exists for unskilled labourers to receive skills training in order to become semi-skilled in various construction-related activities.

During the operational phase, training opportunities as well as apprenticeships will be made available at the poultry farm. All operations staff will be trained on broiler management and coop hygiene. Training will be given by the South African Poultry Association (SAPA), as well as the client. All courses will be accredited and continuous training will be scheduled. The opportunity exists for the poultry farm to be used as a learning platform for potential young entrepreneurs.

5.3 Efficient and beneficial use of water in public interest (Section 27[1c])

The proposed Section 21(a) water use (taking of water) is essential for the operation of the proposed poultry farm. The poultry industry is an important component of the food value chain in South Africa. The industry is the biggest single supplier of protein to the South African consumers and is also the single largest component of the agricultural sector in South Africa by turnover. More chicken meat and eggs are consumed per capita than all other animal protein sources combined.

Local poultry production has increased significantly over the past two decades, but has not been able to meet the increase in local demand for white meat, and chicken is now one of South Africa's largest agricultural imports. It is envisaged that the proposed poultry farm will have a positive input in the local production of poultry products. At full capacity, the activity will produce 360 000 chickens per cycle and thus assist in decreasing the quantity of white meat (poultry) that South Africa imports.

Authorisation of the requested water use will allow the development to proceed thus also providing for numerous employment, training and apprenticeship opportunities. These are considered as socio-economic benefits, and therefore, the proposed water use is considered to be beneficial in the public interest.

5.4 Socio-economic impact of water use (Section 27[1d])

The study site is located in an area housing both rural residential small holdings as well as commercial agricultural and related developments. The proposed activity is for a poultry farm providing chicken to the local market. The activity is considered as contributing to sustainable economic development in the area by increasing business and employment opportunities and thus contributing to socio-economic growth. It is expected that approximately 20 to 25 new workers will be employed during the initial operation phase of the facility. As the facility expands over time, more employment opportunities will become available. In addition, it has been estimated that the proposed facility will provide an economic injection of approximately R20 million over a five year period, thus boosting the local Gauteng Province economy. The proposed poultry farm contributes to food security in South Africa.

5.5 Investments already made and to be made by the water user in respect of the water use in question (Section 21[1h])

The expected capital value of the activity on completion is approximately R 18 million, with the expected yearly income that will be generated as a result of the activity estimated at around R 5 million.

Approximately R 757 000.00 has already been invested in this project in terms of land acquisition, environmental processes, and research. Table 3 below summarises the investments already made as well as the investments still to be made for the proposed poultry farm.

Table 3: Investments already made and to be made for the proposed poultry farm on Erf 255 of the Walkers Fruit Farm Agricultural Holdings.

INVESTMENTS ALREADY MADE	
Acquisition of land	R 560 000.00
Research and development of business plan	R 5 000.00
Environmental Authorisation process	R 75 000.00
Water Use License process	R 30 000.00
Specialist Studies (HIA & Geohydro)	R 87 000.00
SUB-TOTAL:	**R 757 000.00**
INVESTMENTS STILL TO BE MADE	
Infrastructure (coops, equipment, etc) – over a period of five years	R 27 000 000.00
Development Costs	R 2 000 000.00
Wages (per annum)	R 600 000.00
Training / Apprenticeships (value per annum)	R 200 000.00
Borehole pump etc	R 15 000.00
Architect	R 50 000.00
Generators	R 80 000.00
Electricity Reconnection	R 75 000.00
SUB-TOTAL:	**R 30 020 000.00**

The “infrastructure” figure refers to the installation of nine chicken coops at a cost of approximately R3 million each. The “wages” figure reflects the anticipated annual wages. The figure provided for training and apprenticeships is for the average number of students who would experience the training on the farm over the period of one year.

The existing borehole must be cleaned and fitted with a pump.

5.6 Duration of water use (Section 21[k])

The proposed poultry farm is a private undertaking and as such is expected to last for the lifetime of the applicant and beyond (greater than 20 years).

6 Environmental Status Quo

6.1 Climate

The proposed study site is located in an area that experiences climate typical of the Highveld geographical region and falls within the summer rainfall region. The region is characterised by hot summers and mild to cold, dry winters, with the average maximum daytime temperature in January around 26˚C, dropping to an average maximum of around 16˚C in June.

The average rainfall for this area is usually between 600 and 800 millimetres annually with the maximum precipitation occurring between October and April (summer months). Precipitation is usually in the form of thunderstorms and the area is prone to frost occurring during the winter (from mid-April to September).

6.2 Geology & Topography

The site is fairly flat with a slight slope (gradient between 1:50 and 1:20) towards a small ridge located towards the south-western end of the property as indicated in Figure 3 below. The dominant geology in the general area is described as ferruginous shale, hornfels and ferruginous quartzite. An area of fine- to coarse-grained sandstone and shale is located to the north of the study site and an area generally described as containing andesite, agglomerate and tuff some distance to the south-west (Figure 4). The broad soil pattern code is “Ba” which is described as red and yellow, dystrophic/mesotrophic, apedal soils with plinthic subsoils (Figure 5).

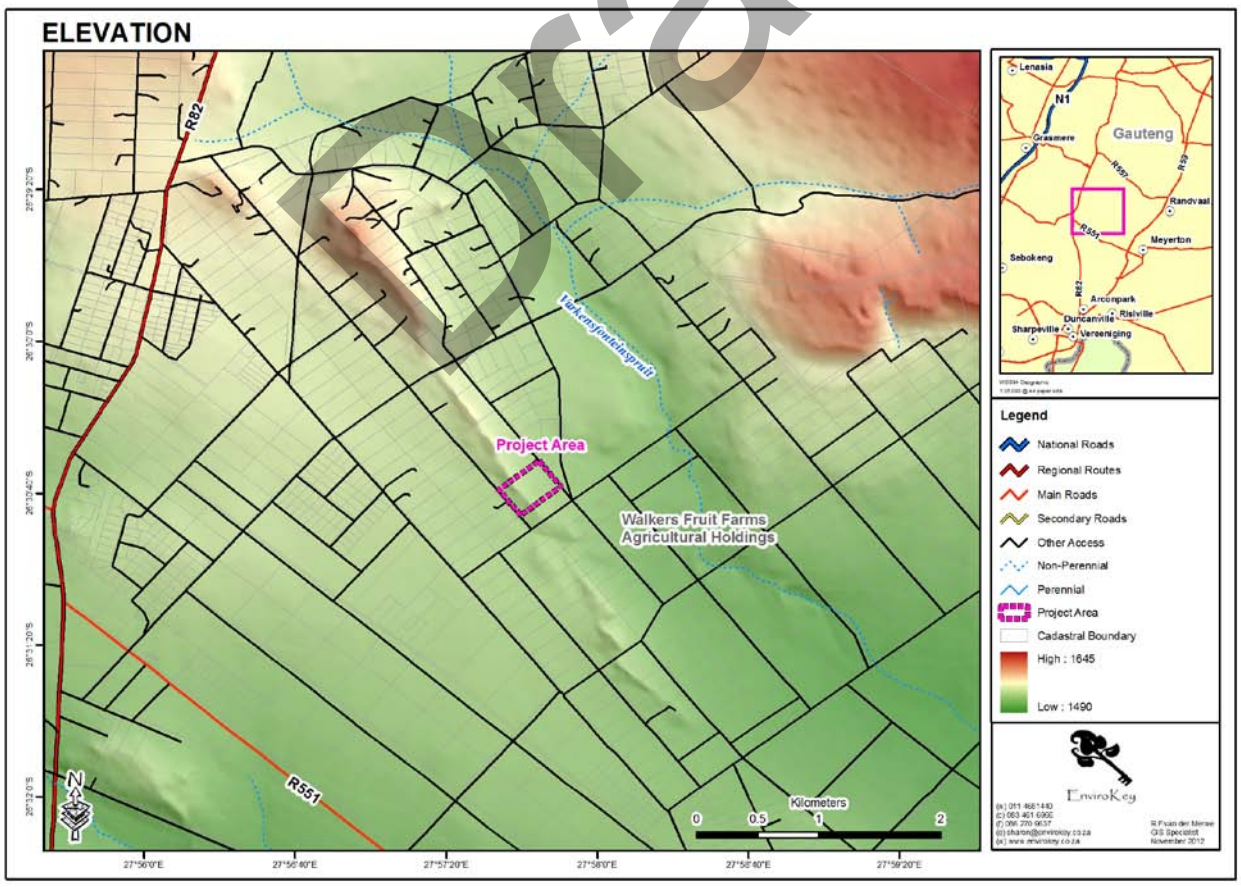

Figure 3: Topographical map illustrating the elevation of the site and surrounding area (Source: Envirocam, 2012).

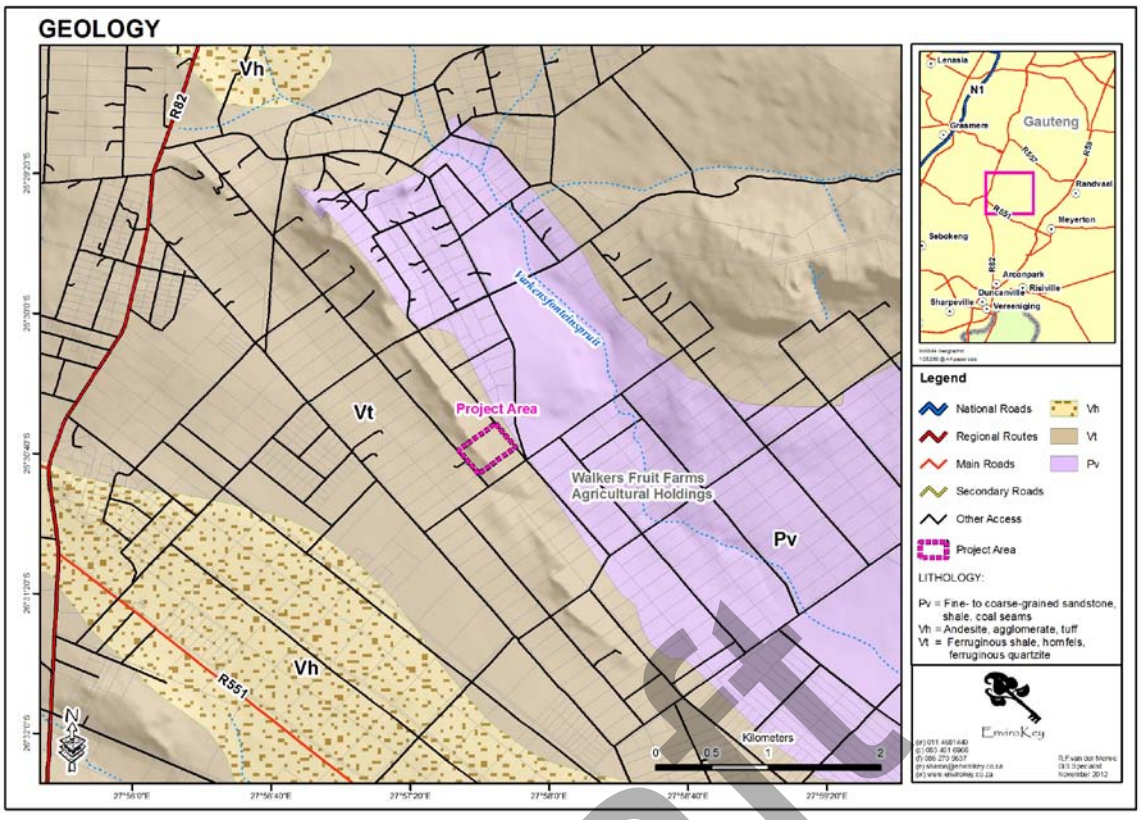

Figure 4: Geological map illustrating the broad geological land types of the study site and surrounding area (Source: Envirocam, 2012).

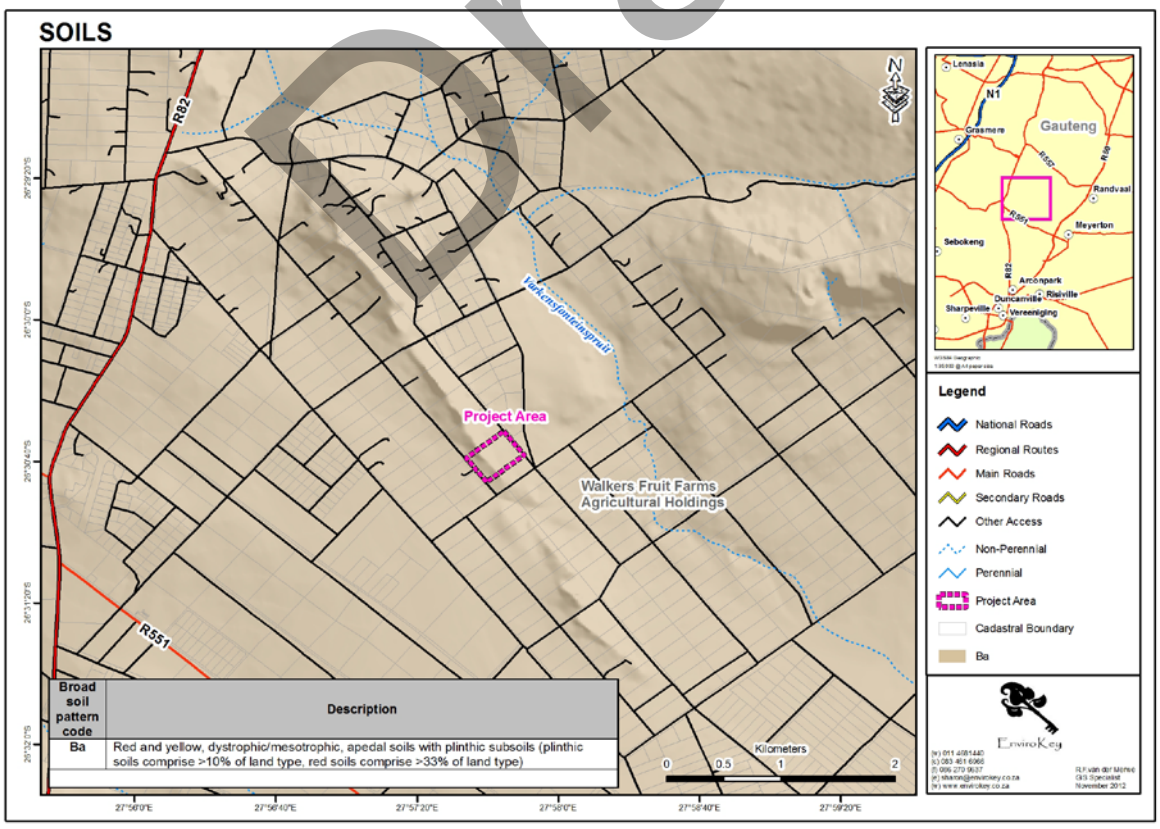

Figure 5: Map illustrating the broad soil types associated with the study area (Source: Envirocam, 2012).

6.3 Vegetation

The study area falls within the Grassland Biome (Figure 6) as classified by Low and Rebelo (1996). Grassland is the second largest biome in South Africa, covering approximately 24% of the country's surface area. This biome is found in Highveld areas that experience summer rainfalls and frost in winter. It also occurs on high mountains and in patches along the coast from the Eastern Cape to KwaZulu Natal. The grassland biome is regarded as the third richest area in terms of plant species diversity. In the grassland biome trees are usually absent, while geophytes occur abundantly (DEA, 2010). The majority of plant species within grasslands are non-grassy herbs (forbs), most of which are perennial plants with large underground storage structures.

The proposed development site is located within the Soweto Highveld Grassland vegetation type as illustrated in Figure 7. The Soweto Highveld Grassland vegetation type is associated with gently to moderately undulating landscapes and is described as supporting short to medium-high, dense tufted grassland dominated mostly by *Themeda triandra*. Much of the surrounding natural vegetation has been altered by anthropogenic activities including cultivation, grazing, game farms, road infrastructure and various related activities.

The GDARD Biodiversity Section (EIA Unit) was consulted to determine whether any specialist biodiversity assessments in terms of plants and vegetation were required for the study site. The Department responded that no specialist biodiversity assessments were required to be investigated in terms of their Conservation Plan and that the absence of wetlands on site should be verified.

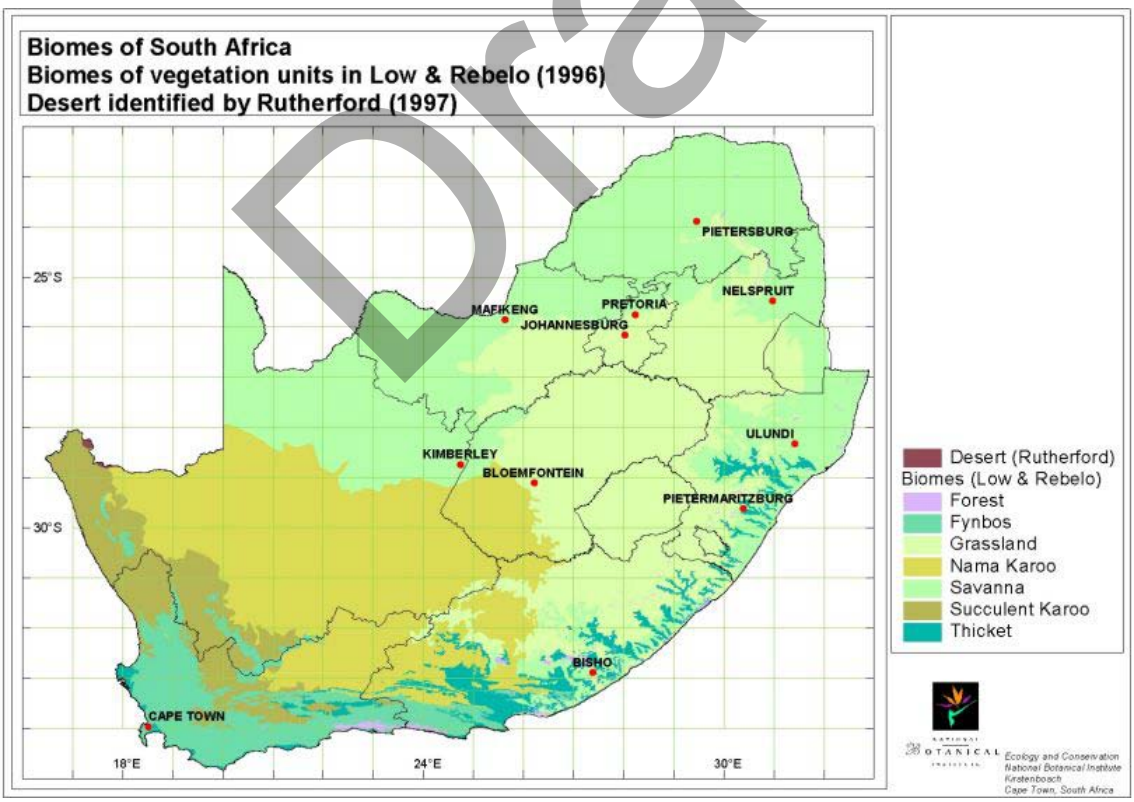

Figure 6: Map of South Africa illustrating the various biomes of vegetation units as identified in Low & Rebelo (1996) accessed at http://www.plantzafrica.com/vegetation/biomes1.pdf. The study site is located south of Johannesburg in the Grassland Biome.

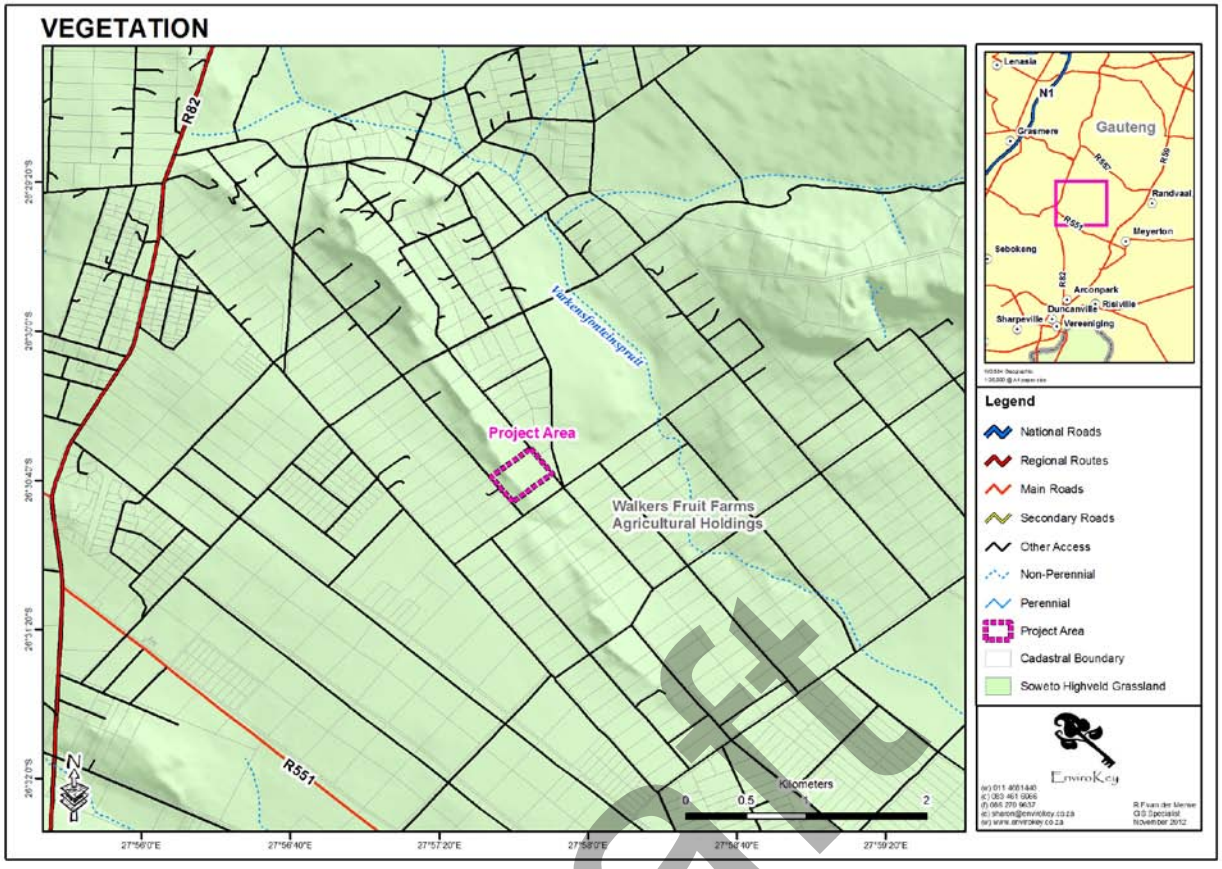

Figure 7: Vegetation map illustrating the location of the study site within the vegetation type described as Soweto Highveld Grassland (Source: Envirocam, 2012).

The proposed development site is sparsely vegetated with grasses and shrubs. The roads surrounding the site are lined with Eucalyptus trees. Although the majority of the site has been disturbed by anthropogenic activities such as grazing and dumping, the small ridge area is populated with a variety of indigenous shrubs and grasses (including sugar bush). No development will take place on the ridge and this area will remain undisturbed. During the site visit, two medicinal plant species were identified on the site, *Hypoxis hemerocallidea* and *Ledebouria revoluta*. Any of these medicinal plants affected by the proposed construction activities will be rescued and relocated to an undisturbed area of the site. Furthermore, the study site is located within the Thorntree Conservancy and an "irreplaceable area" according to GDARD's Conservation Plan has been identified to the north-east of the site (Figure 8).

Recommended mitigation and management measures that form part of the Environmental Management Programme include management measures to ensure landscaping with indigenous plant species as well as measures to control and eradicate invasive plant species.

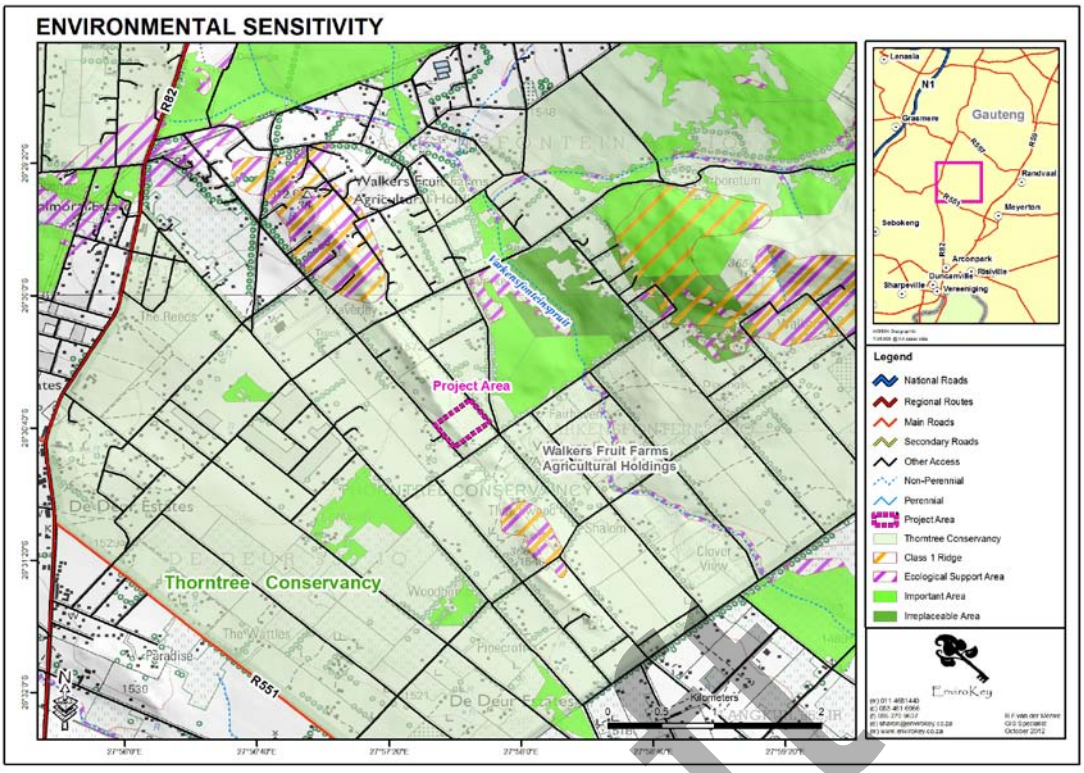

Figure 8: Map illustrating environmentally sensitive areas in proximity to the study site (Source: Envirocam, 2012).

The proposed development site falls within an area identified as having low to very low/none agricultural potential (see Figure 9). Moderate to high agricultural potential land is located north and east of the property.

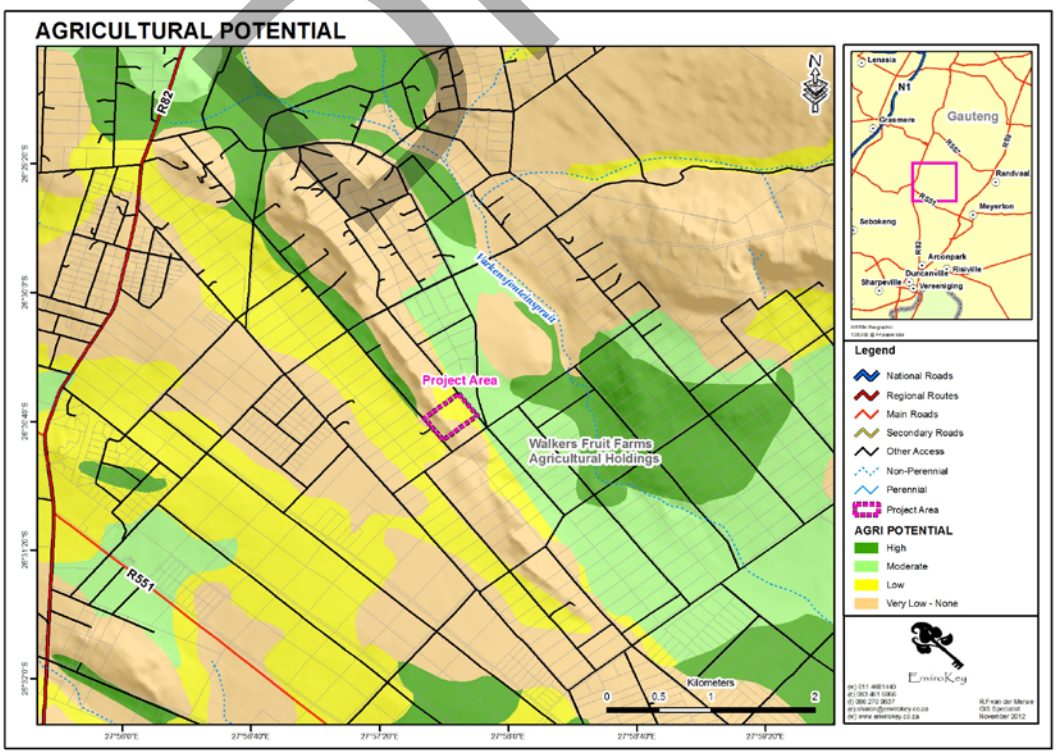

Figure 9: Map illustrating the agricultural potential of the study site and surrounding land (Source: Envirocam, 2012).

6.4 Hydrology

6.4.1 Surface Water

The study site is located within the C22E quaternary catchment area (within the Upper Vaal Water Management Area) as illustrated in Figure 10 below. The Varkensfonteinspruit system is located approximately two kilometres to the north of the site. No rivers, wetlands, streams or other natural surface water bodies were identified on the study site or within 500m of the site boundaries. No channelling of rainwater runoff into any specific areas was observed. Stormwater management must have a high level of priority to ensure that contamination of surface run-off does not occur.

6.4.2 Ground Water

The proposed activity requires the use of borehole water during operation. An existing borehole is located on the site and prior testing has indicated that the borehole is 60 metres deep and, at the time of testing, delivery was 5 000 litres per hour. The borehole is currently not in use. It needs to be cleaned and a new pump must be installed as the pump and pipes that had been installed previously were stolen.

Current estimations indicate that the poultry facility will utilise approximately 7 500 litres of water daily during weeks 1 to 6 of the cycle, and 3 000 litres daily during weeks 7 and 8 of the eight-week cycle.

As part of this water use license application a Geohydrological Investigation must be undertaken to determine the impact that the proposed abstraction of water will have on the groundwater resources. The geohydrological assessment should determine the groundwater potential to support the proposed activity and the risks associated with infrastructure stability. In addition, it should assess the impact of the proposed development on the regional groundwater system. This will be accomplished by means of a hydrocensus to identify groundwater use and quality within 1km of the property and pump testing of the existing borehole to determine supply potential and aquifer parameters. Water quality will be analysed and an aquifer risk assessment and classification undertaken.

This report is being submitted as supporting documentation for the Water Use License Application for the taking of water from a water resource in terms of Section 21(a) of the National Water Act (Act 36 of 1998).

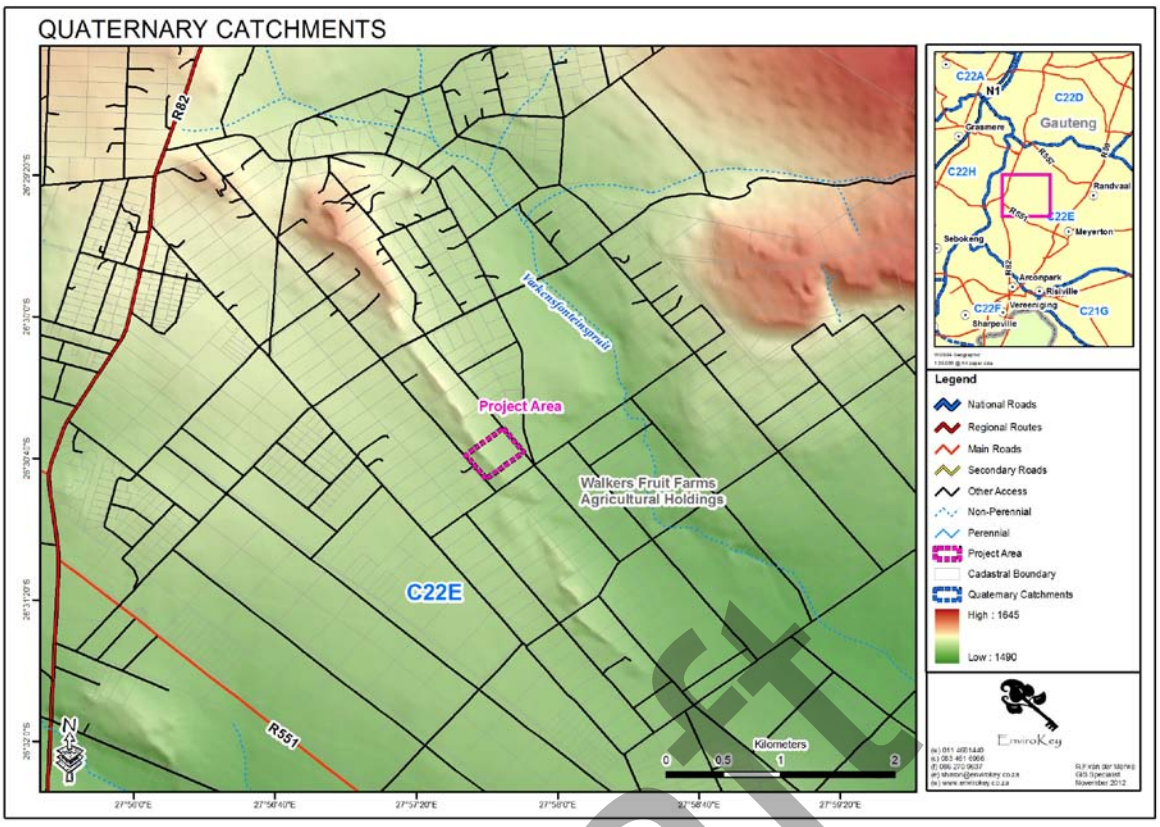

Figure 10: Map illustrating the quaternary catchment area within which the study site is located (Source: Envirocam, 2012). Catchment area C22E falls within the Upper Vaal Water Management Area (WMA 8).

6.5 Archaeological and Culturally Important Sites

In order to adhere to the requirements for heritage management as set out by the National Heritage Resources Act (NHRA) Act No. 25 of 1999, a Heritage Impact Assessment (HIA) was undertaken for the property under consideration. The HIA undertaken on the site revealed no tangible historic and/or archaeological structures on the site or within the surrounding study area.

The purpose of the Heritage Impact Assessment is to outline the cultural heritage sensitivity of the proposed development area and to advise on mitigation or management measures should any heritage sites or landscapes be affected. However, no sites of cultural significance or culturally sensitive landscape types could be identified within the study area.

The HIA Report describes the main cultural landscape type associated with this area as one of limited agricultural activities that are slowly being absorbed by retail, industrial and to a lesser extent, occupational activities. As such, the cultural identity of the area is not well defined. The Report concluded that although the area investigated showed some signs of human activities, none of these have any cultural heritage significance at this stage. It is recommended that should bedrock be affected during trenching activities, a palaeontologist should be appointed to compile a palaeontological desktop study.

6.6 Land Use

The property's current land use zoning is Agricultural in terms of the Walkerville Town Planning Scheme of 1994 and uses permitted include agricultural buildings and agricultural land. Land uses permitted with the consent of the Council include "service industry, farm shop, place of instruction, place of public worship, animal institution, game farming and commercial uses subservient and related to the main use".

Various land uses surround the property. These include small-scale commercial cultivation, stock grazing, warehouses, packaging plants (associated with the cultivation) and game farming. There are also several rural residential properties in the surrounding area.

As has been previously indicated, the study site is located within the Thorntree Conservancy (Rural Conservancy) and more than 50% of the conservancy has been identified as important or irreplaceable in terms of the GDARD's Conservation Plan (Version 2) (P3 Consulting, 2012).

The majority of the land within the Midvaal Local Municipality is utilised for commercial agriculture. The Midvaal Local Municipality is an important resource to Gauteng in terms of food production. Agricultural activity in the area is dominated by commercial farming operations, including the cultivation of crops and vegetables as well as animal production (including milk, beef, eggs and poultry) (P3 Consulting, 2012).

6.7 Visual Nature

In terms of the visual nature, the study area is characterised by agricultural small holdings (rural residential). The agricultural holdings house diverse land uses ranging from rural residential, through small-scale farming and game farming to informal industrial and commercial activities. Many of the agricultural holdings are vacant.

It is expected that the proposed activities will have a negative visual impact on the surrounding landscape, particularly toward the Meyerton Road side as this is where the proposed chicken coops will be located. Rehabilitation measures (such as lining the boundary with indigenous trees or shrubs) could potentially mitigate the visual impact and even aid in improving the aesthetic value of the property.

7 Impact Assessment

7.1 Methodology Followed

The impact assessment methodology that was utilised during the Basic Assessment process for this development is based on the ISO14001 principle of activities, aspects and impacts. Activities are the physical activities that are carried out during the project during design, construction, operation and decommissioning of the development proposed for the site; Environmental aspects are elements of the activities that interact with the environment and include biophysical and socio-economic elements. Impacts are defined as changes in the biophysical or socio-economic environment as a result of the aspects.

7.2 Impact Assessment Criteria & Rating

Each impact identified within the assessment phase of the study is given a significance rating. The significance rating is obtained by implementing this equation:

Significance = (Consequence of impact) x (Probability of impact)

The consequence of an impact is the sum of extent, duration, severity and degree of irreplaceable loss of the resource. All consequences of an impact are measured as cumulative impacts, taking into account the existing impacts on the resource. The significance of an impact can be measured as positive or negative. The impact assessment table used for calculating significance is provided below.

Table 4: Impact Assessment Table for Calculating significance.

Category	Description	Score
Extent	Site only	1
	Local	2
	Provincial	3
	National	4
	Global	5
Duration	Immediate short-term (less than 3 months)	1
	Construction or decommissioning period	2
	For the life of the operation	3
	Permanent	5
Intensity of impact on resource	Will have an insignificant impact on the resource	1
	Will generate an impact of low intensity	2
	Will generate an impact of moderate intensity	3
	Will have a very significant impact on the resource	4
Irreplaceable loss of resources	No/minor irreplaceable loss	0
	Partial irreplaceable loss	1
	Major loss of irreplaceable resources	2
	Full loss of irreplaceable resources	5
Probability	Improbable	0.5
	Possible but unlikely	1
	Probable	2
	Highly probable	3
	Definite	4

Once the impact has been assessed using the above significance categories, a rating is calculated. The rating will indicate a specific significance of the impact as illustrated by the table below. By identifying whether the impact is positive or negative, the significance will be read from the relevant portion of the table.

Table 5: Impact Ratings and the implicated Significance.

	Score	Significance
Negative Impact	>60	Fatal flaw (unacceptable impact)
	40 to 60	High significance
	20 to 39	Moderate significance
	19 to 0	Low significance
Positive Impact	0 to 25	Low significance
	26 to 45	Moderate significance
	>45	High significance

By calculating the significance rating of the impact, one can evaluate whether a negative impact can be mitigated and managed efficiently, or whether the impact is a fatal flaw, and thereby disallowing the proposed development from being approved. A positive impact could be a motivation to the proposed development and by assigning significance to the positive impact; this provides comparative information to decision-makers for approval or denial of the application.

7.3 Impact Assessment Table for the proposed poultry farm

The results from the Impact Assessment undertaken as part of the Basic Assessment Process for Environmental Authorisation for the establishment of the poultry farm on Holding 255 Walkers Fruit Farms Agricultural Holdings are provided below in Tables 6 and 7.

The impact to water resources in the surrounding area are of particular importance and in this light, a geohydrological investigation should be undertaken to better understand the potential impact of the proposed poultry facility on the local and regional water resources.

Table 6: Impact Assessment for the proposed poultry farm on Holding 255 Walkers Fruit Farms AH.

PROPOSAL: The proposal is for the construction of chicken broilers and residential housing with a combined footprint of less than 7 hectares. The remainder of the property will be left in its natural state.			
CONSTRUCTION PHASE			
Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
1) Loss of habitat and biodiversity loss The area to be affected by the proposed development is approximately 7 hectares in extent. The whole site remains natural veld. The proposed development site is surrounded by mainly agricultural smallholdings. Erf 255 is situation in a conservancy area. From the north round to the south, the area is used predominantly for small scale agricultural use and some light commercial activities. To the east of the site is vacant land and beyond that there is a new game farm. Site clearing for the proposed development will result in the removal of current vegetation (which is dominated by shrubs and grass). Furthermore, disturbance due to noise and machinery and human movement during construction will also impact on site habitat and biodiversity. The construction phase of the development is temporary and the operational phase will be long term.	**Score = 16** **Rating = Low to moderate**	All construction activities should be confined to the project site. Mitigation measures further provide for the use of indigenous vegetation for ALL landscaping requirements. Provision is made in the Environmental Management Plan (EMP) for landscaping of the site with indigenous vegetation. Lists of suitable vegetation are also provided.	**Score = 8** **Rating = Low**

2) Impact on Fauna The construction of the proposed development will require clearing of the 7 hectares of the 10 hectares of site. No fauna were spotted on site. However, the impact on fauna is not considered to be significant as there were no animals spotted on site. It is not expected that the operational phase of the development will have a significant impact on fauna.	**Score = 7** **Rating = Low**	The use of indigenous vegetation to landscape disturbed areas within the development will provide some habitat for fauna. Planting some indigenous trees in suitable places around the property will provide additional habitat and shelter for the indigenous birds and terrestrial fauna that may frequent this area. Provisions are provided in the EMP (**Appendix H**) indicating that no animals found on site are to be killed or harmed. They should be relocated to suitable habitats.	**Score = 3** **Rating = Very Low**
3) Impact on Flora The proposed development area is located in a Conservancy. However, no Red Data Species were noted on site. Medicinal plants were noted on site. The proposed construction may result in the removal, burial, mechanical damage, or alteration to all the vegetation in the footprint area on the proposed development site.	**Score = 14** **Rating = Low to moderate**	All construction activities should be confined to the project site. Where practical, indigenous trees present on site should be identified, removed and used for landscaping purposes after construction is completed. Mitigation measures include the use of indigenous vegetation for ALL landscaping requirements, including the use of indigenous grasses such as *Cynodon dactylon* instead of kikuyu for lawns. The site should be kept free of exotic vegetation. All the medicinal plants identified on site will be documented and recorded using photographs. Their locations (geographical coordinates) will also be documented using a GPS.	**Score = 8** **Rating = Low**

		A rescue operation will be conducted to relocate the plants to a suitable alternative location. Several options will be considered and investigated. It is currently envisaged that between 0.5h to 1h of the site (property) will be reserved for the location of the two medicinal plants species. Another option would be to consider and investigate alternative sites which are in close proximity to the proposed development site to locate the plant species. An Environmental Management Plan has been compiled to provide management measures for reducing the impacts to the local environment.	
4) Noise Residents in the vicinity of the proposed development site will be subjected to increased noise nuisance (noise and vibration caused by construction machinery and equipment) during the construction phase of the project. Noise nuisance may be both intermittent and continuous. Due to the size and distances between properties it is anticipated that noise will be limited to the development site The movement of heavy vehicles to and from the site during the construction phase, as well as the actual construction activity, will all be sources of noise pollution. These activities will, however, be restricted to specific operating hours. The noise generated by construction activities will be temporary and limited to the construction phase of the project.	**Score 16** **Rating = Low to moderate**	Working hours must be limited to day light only. Noise related to the construction activities are to be scheduled to occur within prescribed normal working hours and must comply with the provisions of SABS 0400-1990 with respect to working hours (see EMP – **Appendix H**). In addition, construction vehicles and machinery should be fitted with the appropriate noise muffling devices and must be appropriately maintained so as to ensure that the machines and vehicles do not produce excessive noise disturbance.	**Score = 5** **Rating = Very Low**

However, the distance of surrounding agricultural holdings gives the potential noise impact less significance.			
5) Water Pollution The proposed construction activities (including installation of services) may potentially cause pollution to underground reservoirs. The proposed abstraction of underground water at the facility is likely to have an impact on the underground water resource. In addition, litter and waste during construction must be monitored so as to ensure that no pollution will affect the surrounding environment or stormwater runoff.	**Score = 10** **Rating = Low**	Mitigation measures to prevent water pollution include the appropriate disposal of litter and waste produced during the construction phase as outlined in the EMP (**Appendix H**). A Water Use License (WUL) application is being submitted to the Department of Water Affairs (DWA). The Department of Water Affairs will also review the BAR and provide comments and/or recommendations. All measures must be taken to ensure no hydrocarbon spillages occur on site. These mitigation measures will ensure that no pollution will affect the surrounding environment and storm water runoff.	**Score = 5** **Rating = Very Low**
6) Soil Pollution During the construction phase, soil contamination may be caused by leakages from improper storage or poor handling of petroleum products such as oil and fuel. Spillage during dispensing, as well as improper disposal of used oils, hydraulic fluids and empty oil containers may also lead to soil pollution. The presence of machinery and vehicles on site during the construction phase may result in the occurrence of hydrocarbon spills or leakages. Improper practices when	**Score 12** **Rating = Low**	Storage of potential pollutants such as fuel and oil should be confined to a sealed surface to prevent soil contamination from accidental leaks or spillages. Best management practices should be applied to reduce fuel usage. The EMP includes recommendations for handling of hydrocarbons on site, as well as mitigation measures in the event of accidental leakage or spillage. Vehicles and machinery must be well-maintained to	**Score = 4** **Rating = Very Low**

conducting maintenance on vehicles/machinery may also result in hydrocarbon spills contaminating the soil.		ensure they do not result in oil or fuel leaks. Should maintenance of vehicles/machinery take place on site, this should be undertaken in a designated area that is paved. In addition, spill trays should be used when servicing vehicles to reduce the likelihood of oil or fuel spillage on the ground.	
7) Air Pollution The proposed construction phase activities will affect air quality as a result of emissions caused by exhaust fumes and dust generation. The effect on air quality is expected to be very localised and minor. This impact is not expected to be significant.	**Score = 14** **Rating = Low to moderate**	Emissions into the air can be minimised by ensuring regular maintenance of construction vehicles and equipment in order to reduce emission of exhaust fumes. The application of best management practices for dust suppression will also aid in reducing air pollution. Dust control can be achieved by means of the periodic application of water to open sandy surfaces and to temporary dirt roads. The EMP includes recommendations for dust suppression.	**Score = 8** **Rating = Low**
8) Property Values The proposed development is expected to have a moderate negative effect on property values for the immediately surrounding area.	**Score = 14** **Rating = Low to Moderate**	The operational phase of the site should include good housekeeping measures to ensure that the site does not contribute to area neglect.	**Score = 8** **Rating = Low**
9) Storm Water Management Construction activities can impact on stormwater in terms of sedimentation and pollution. Litter or hydrocarbon spillages or cement can also have an impact on stormwater.	**Score = 16** **Rating = Moderate**	In terms of SABS 0400-1990 of the National Building Regulations, on site drainage will be provided prior to construction to combat soil erosion. **A storm water management plan designed and supervised**	**Score = 6** **Rating = Low**

		by an engineer and approved by the local authority, is required before construction on the site is undertaken.	
10) Soil Erosion Exposed soil resulting from construction activities is prone to erosion by water or wind. Stripping and stockpiling of topsoil could lead to erosion and degradation of soil quality. In addition, soil compaction could result following the construction activities. Furthermore, within the construction phase, some activities involving site installation and preparation may cause soil destabilisation.	**Score = 14** **Rating = Low**	Mitigation measures include reducing the amount of exposed soil by means of selective soil stripping. Susceptible soil surfaces can be protected with mulch. Drainage channels must be monitored to ensure erosion doesn't occur. Planting (or grassing) erodible surfaces as soon as possible will assist in soil binding and may help prevent soil erosion. Mitigation measures and stipulations in this regard are elaborated on within the EMP.	**Score = 5** **Rating = Very Low**
11) Cultural Sites and Historical and Pre-Historical Sites or Features The impact of the proposed development on heritage sites is insignificant as there are no known heritage sites on the development site or in the vicinity of the project.	**N/A**	There are no cultural or historical features on site or in the near vicinity. However, the provisions of the National Heritage Resources Act will apply. If any sign of a heritage or cultural site is unearthed during excavations then all activity must cease until the Heritage Specialist has had an opportunity to investigate such finds.	**N/A**
12) Loss of land for farming The Agricultural Potential for the proposed development site has been classified as low according to the GDARD Conservation Plan (Version 3).	**Score = 3** **Rating Low**	The area is small and not viable for crop farming. No relevant mitigation measures exist.	**Score = 1** **Rating = Very Low**

13) Visual Impact Construction activities that, without mitigation, could give rise to visual impacts. The following temporary activities are included: • Presence of storage and stockpile areas, • Movements of construction machinery.	**Score = 16** **Rating = Low to moderate**	The visual impacts of construction activities will be temporary.	**Score = 8** **Rating = Low**
14) Traffic Construction activities will require the movement of heavy vehicles and machinery on local road networks to access the development site. The movement of vehicles related to the proposed development may impact on local traffic movements.	**Score = 14** **Rating = Low to Moderate**	Movement of construction vehicles on the local road network should be minimised as far as possible.	**Score = 6** **Rating = Low**
15) Safety During the construction phase heavy machinery will be employed. The potential for accidents among operators exists if machinery is not handled properly. This is likely to have a negative impact on the health of the workers. The lack of enforcement of health and safety regulations could impact negatively on construction workers.	**Score = 12** **Rating = Low**	To limit the risk of accidents, safety procedures must be put in place and enforced by the foremen to ensure that vehicles and machinery only drive in designated places and are only driven by authorised personnel. Occupational Health and Safety Requirements as determined by the Department of Health must be enforced during the construction phase of the proposed activities. Firefighting, containment of hazardous materials and First Aid are covered in the EMP (**Appendix H**).	**Score = 3** **Rating Very Low**

16) Hydrocarbon Spills Potential oil and petroleum spills from construction vehicles and equipment may occur during the construction phase of the development. Such spills will also be possible during the operational phase of the development and may pollute the soil.	**Score = 8** **Rating = Low**	The following measures may prevent or reduce the likelihood of hydrocarbon spills: • Use of drip pans where petroleum products are dispensed. • Storage of potential pollutants such as fuel and oil should be done on sealed surfaces to prevent soil and water contamination. Petroleum storage tanks should have bund walls around and should be high enough to contain any potential spillage; • Used oil and lubricants must be collected and recycled. These measures are elaborated on within the EMP.	**Score = 4** **Rating = Very Low**
17) Impact on Services Sufficient capacity in terms of water, sewage and electricity must be established to accommodate the proposed development.	**Score = 8** **Rating= Low**	All stipulations and conditions provided by the local municipality in terms of installation of services should be adhered to.	**Score = 5** **Rating = Very Low**
18) Socio Economic Impact The proposed broiler activities will supply employment opportunities to locals and working there would supply them with skill development.	**Score = 7** **Rating = Low to moderate**	Development of broiler activities will require more employees thereby expanding employment opportunities and uplifting the rural community by the fact that: • It provides for the creation of employment opportunities for local people in the area. • Staff that will be employed by the broiler operation will be trained for their jobs and are thereby provided skills that may qualify them	**Score = 4** **Rating = Very Low**

		for future employment they may not otherwise have been skilled for.	

PROPOSAL: The proposal is for the construction of chicken broilers and residential housing with a combined footprint of less than 7 hectares. The remainder of the property will be left in its natural state.			
OPERATIONAL PHASE			
Potential impacts:	**Significance rating of impacts:**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**
1) Loss of habitat and biodiversity loss The area to be affected by the proposed development is approximately 7 hectares in extent. The whole site remains natural veld. The proposed development site is surrounded by mainly agricultural smallholdings. Erf 255 is situation in a conservancy area. From the north round to the south, the area is used predominantly for small scale agricultural use and some light commercial activities. To the east of the site is vacant land and beyond that there is a new game farm. Site clearing for the proposed development will result in the removal of current vegetation (which is dominated by shrubs and grass). The operational phase of the development will be long term.	**Score = 16** **Rating = Low to moderate**	All operational activities should be confined to the project site. Mitigation measures further provide for the use of indigenous vegetation for ALL landscaping requirements. Provision is made in the Environmental Management Plan (EMP) for landscaping of the site with indigenous vegetation. Lists of suitable vegetation are also provided.	**Score = 6** **Rating = Low**
2) Impact on Fauna It is not expected that the operational phase of the development will have a significant impact on fauna.	**Score = 4**	The use of indigenous vegetation to landscape disturbed areas within the development will provide	**Score = 1**

	Rating = Very Low	some habitat for fauna. Planting some indigenous trees in suitable places around the property will provide additional habitat and shelter for the indigenous birds and terrestrial fauna that may frequent this area. Provisions are provided in the EMP (**Appendix H**) indicating that no animals found on site are to be killed or harmed. They should be relocated to suitable habitats.	**Rating = Very Low**
3) Impact on Flora The proposed development area is located in a Conservancy. However, no Red Data Species were noted on site. Medicinal plants were noted on site.	**Score = 10** **Rating = Low to moderate**	All construction activities should be confined to the project site. Where practical, indigenous trees present on site should be identified, removed and used for landscaping purposes after construction is completed. Mitigation measures include the use of indigenous vegetation for ALL landscaping requirements, including the use of indigenous grasses such as *Cynodon dactylon* instead of kikuyu for lawns. The site should be kept free of exotic vegetation. A rescue operation will be conducted to relocate the plants to a suitable alternative location. Several options will be considered and investigated. It is currently envisaged that between 0.5h to 1h of the site (property) will be reserved for the location of the two medicinal plants species. Another option would be to consider and investigate alternative sites which are in close proximity to the proposed development site to	**Score = 4** **Rating = Very Low**

		locate the plant species. An Environmental Management Plan has been compiled to provide management measures for reducing the impacts to the local environment.	
4) Noise Residents in the vicinity of the proposed development site will be subjected to noise nuisance from the vehicles to and from the site. Noise may also come from the broilers during the operational phase of the proposed development. *However, the distance of surrounding agricultural holdings gives the potential noise impact less significance.*	**Score 16** **Rating = Low to moderate**	No collection of chickens nor deliveries to the proposed development should occur after hours.	**Score = 6** **Rating = Low**
5) Water Pollution Poorly managed disposal of carcasses may generate a risk of pollution to groundwater resources. The presence of vehicles on site may result in hydrocarbon spillages and pollute water.	**Score = 10** **Rating = Low**	Disposal of dead carcasses must also be managed. A management plan has been formulated to deal with this issue, see EMP (**Appendix H**). In addition, all measures must be taken to ensure no hydrocarbon spillages occur on site. These mitigation measures will ensure that no pollution will affect the surrounding environment and storm water runoff.	**Score = 5** **Rating = Very Low**
6) Soil Pollution The presence of machinery and vehicles on site during the operational phase may result in the occurrence of hydrocarbon spills or leakages. Improper practices when conducting	**Score 12** **Rating = Low**	Vehicles and machinery must be well-maintained to ensure they do not result in oil or fuel leaks. Should maintenance of vehicles/machinery take place on site,	**Score = 4** **Rating = Very Low**

maintenance on vehicles/machinery may also result in hydrocarbon spills contaminating the soil.		this should be undertaken in a designated area that is paved. In addition, spill trays should be used when servicing vehicles to reduce the likelihood of oil or fuel spillage on the ground. Storage of potential pollutants such as fuel and oil should be confined to a sealed surface to prevent soil contamination from accidental leaks or spillages. Best management practices should be applied to reduce fuel usage. The EMP includes recommendations for handling of hydrocarbons on site, as well as mitigation measures in the event of accidental leakage or spillage.	
7) Air Pollution The proposed operational phase activities will affect air quality as a result of emissions caused by exhaust fumes and dust generation. The effect on air quality is expected to be very localised and minor. Vehicles and machinery used on site during the operational phase may result in minimal air pollution due to the release of exhaust fumes and possible dust generation. This impact is not expected to be significant. Smell from the broiler activities has an impact on the quality of air in the neigbourhood and may affect life for neighbours down wind.	**Score = 14** **Rating = Low to moderate**	Emissions into the air can be minimised by ensuring regular maintenance of construction vehicles and equipment in order to reduce emission of exhaust fumes. The application of best management practices for dust suppression will also aid in reducing air pollution. Dust control can be achieved by means of the periodic application of water to open sandy surfaces and to temporary dirt roads. The EMP includes recommendations for dust suppression. The cages/scoops will be cleaned on a regular basis to avoid foul smell that can bother neighbours of the proposed development. Food stocks will be kept dry and stored in airtight	**Score = 14** **Rating = Low to moderate**

		containers. Water used to clean structures will be diverted directly to the septic tank. No chicken carcasses will be left astray; it will be kept in a lined and sealed container and it will be removed from the site on a daily basis. The carcasses will be collected by crocodile or lion farmers for feeding purposes 9this will be investigated).	
8) Property Values The proposed development is expected to have a moderate negative effect on property values for the immediately surrounding area.	**Score = 14** **Rating = Low to Moderate**	The operational phase of the site should include good housekeeping measures to ensure that the site does not contribute .to area neglect.	**Score = 8** **Rating = Low**
9) Storm Water Management During the operational phase, the development will probably render a portion of the site with an impermeable surface (rooftops). This will result in increased storm water runoff post-development. If not managed properly, storm water runoff could result in soil erosion.	**Score = 10** **Rating = Low to Moderate**	In terms of SABS 0400-1990 of the National Building Regulations, on site drainage will be provided prior to construction to combat soil erosion. **A storm water management plan designed and supervised by an engineer and approved by the local authority, is required before construction on the site is undertaken.** **Taps on site should have a cement bowl to reduce splash impact or should have grass blocks at the tap to absorb water**.	**Score = 6** **Rating = Low**

10) Cultural Sites and Historical and Pre-Historical Sites or Features The impact of the proposed development on heritage sites is insignificant as there are no known heritage sites on the development site or in the vicinity of the project.	**N/A**	There are no cultural or historical features on site or in the near vicinity. However, the provisions of the National Heritage Resources Act will apply. If any sign of a heritage or cultural site is unearthed during excavations then all activity must cease until the Heritage Specialist has had an opportunity to investigate such finds.	**N/A**
11) Visual Impact • Coops may have an impact on the surrounding area.	**Score = 16** **Rating = Low to moderate**	In terms of the operational phase, development controls must be imposed on the development to ensure that the proposed development is in-keeping with the surrounding built form. Furthermore, strategic landscaping using indigenous vegetation will enhance the attractiveness of the development, making it both more visually appealing and more environmentally valuable.	**Score = 10** **Rating = Low to moderate**
12) Traffic The movement of vehicles related to the proposed development may impact on local traffic movements. The traffic impact is not expected have a significant impact in the area as it will be low.	**Score = 10** **Rating = Low to Moderate**	Movement of construction vehicles on the local road network should be minimised as far as possible.	**Score = 5** **Rating = Low**
13) Safety The lack of enforcement of health and safety regulations could impact negatively on construction workers.	**Score = 12**	To limit the risk of accidents, safety procedures must be put in place and enforced by the foremen to ensure that vehicles and machinery only drive in designated	**Score = 3**

All normal precautionary measures should be implemented during the operational phase of the development to ensure that vehicles and machinery do not pose a threat to the safety of employees and/or the public. There will be no significant impacts to the safety of the public as a result of the proposed activity.	**Rating = Low**	places and are only driven by authorised personnel. Occupational Health and Safety Requirements as determined by the Department of Health must be enforced during the operational phase of the proposed activities. Firefighting, containment of hazardous materials and First Aid are covered in the EMP (Appendix H).	**Rating Very Low**
14) Hydrocarbon Spills Potential oil and petroleum spills from vehicles and equipment on site may occur during the operational phase of the development and may pollute the soil.	**Score = 8** **Rating = Low**	The following measures may prevent or reduce the likelihood of hydrocarbon spills: • Use of drip pans where petroleum products are dispensed. • Storage of potential pollutants such as fuel and oil should be done on sealed surfaces to prevent soil and water contamination. Petroleum storage tanks should have bund walls around and should be high enough to contain any potential spillage; • Used oil and lubricants must be collected and recycled. These measures are also elaborated on within the EMP.	**Score = 3** **Rating = Very low**
15) Impact on Services Sufficient capacity in terms of water, sewage and electricity exists to accommodate the proposed development.	**Score = 8** **Rating= Low**	All stipulations and conditions provided by the local municipality in terms of installation of services should be adhered to.	**Score = 4** **Rating = Very Low**

16) Socio Economic Impact The proposed broiler activities will have a positive impact on the local economy by supplying employment opportunities to locals and working there would supply them with skill development.	**Score = 19** **Rating = Moderate**	Development of broiler activities will require more employees thereby expanding employment opportunities and uplifting the rural community by the fact that: • It provides for the creation of employment opportunities for local people in the area. • Staff that will be employed by the broiler operation will be trained for their jobs and are thereby provided skills that may qualify them for future employment they may not otherwise have been skilled for.	**Score = 20** **Rating = Moderate**

8 Public Participation

8.1 Regulation 54 of the EIA Regulations (2010)

The stakeholder engagement / public participation process is being undertaken according to the requirements referred to in Section 27(a) and outlined in Regulation 54 of the EIA Regulations (Regulation 543 of 2010).

8.2 Notification of I&APs

The following steps were implemented to notify any interested and affected parties or stakeholders of the intention to undertake the Basic Assessment Process for Environmental Authorisation and the related Water Use License Application for the proposed poultry farm on Holding 255 Walkers Fruit Farms AH.

8.2.1 Newspaper Advertisement

A newspaper advertisement providing notice of the proposed Environmental Authorisation and Water Use License Application and the proposed undertaking of a Basic Assessment, as well as contact details for the environmental assessment practitioner (EAP) was published in *The Star* newspaper on 01 November 2012.

8.2.2 On site notice

Two "A2" size site notices were displayed at the site. One site notice was displayed on Meyerton Road and the second on Foothill Road. The site notices provided notification of and the details of the applications along with the contact details of the EAP.

8.2.3 Background Information Document (BID)

Background Information Documents were delivered to residents or properties adjacent to or within 100m of the site boundaries. Copies of the BIDs were also sent to the ward councillor and the Midvaal Local Municipality, as well as the Chairperson of the Thorntree Conservancy.

The Background Information Document included details of the proposed poultry farm for which the application was submitted along with the details of the EAP. Property and location details were provided along with a map illustrating the location of the study site. An I&AP Registration form, indicating that any potential I&APs had 30 days to register as such, was included with the BID.

8.2.4 Public Meeting

A public meeting to discuss the findings of the impact assessment will be scheduled towards the end of the public review period of the Draft BAR and supporting documents. Interested & Affected Parties will have the opportunity to raise any additional concerns or comments at the meeting. Any comments raised at the meeting will also be included in the Issues Report that has been compiled for the Basic Assessment Report.

Copies of all the public participation documentation are provided in Appendix E of the Draft Basic Assessment Report. The Draft Basic Assessment Report is attached as Appendix D of this report.

8.3 Register of Interested & Affected Parties

The following table provides the list of currently registered Interested and Affected Parties (I&APs). Any additional I&APs who wish to register during the document review period and subsequent public participation process will be included in the final register.

Table 7: List of Registered Interested and Affected Parties

Stakeholders	Contact number	Address	email
1. Ann Naicker Proponent / Developer	(c) 072 650 1177	Plot 255, Meyerton Road, Walker's Fruit Farms	ann.naicker@vodacom.co.za
2. Sebina Phochana Dept. of Water Affairs	(t) 012 392 1374 (c) 071 3250 2010		phochanas@dwa.gov.za
3. Jako Verster Midvaal Local Municipality	(t) 016 360 5860 (c) 082 783 0057		jakov@midvaal.gov.za
4. Councillor Rob Jones (Ward Councillor) Midvaal Local Municipality	(c) 082 410 5633		ward5@midvaal.info
5. Ivan Parkes Thorntree Conservancy Group	(t) 016 590 4228 (c) 084 590 2312		ivan@thorntree.co.za
6. Steven v/d Walt	(c) 073 170 4402	388 Plantation Road, Walkers Fruit Farms	N/A
7. Dave Ollewagen	(c) 083 682 1624	Plot 445 Plantation Road, Walkers Fruit Farms	pollyo@webmail.co.za
8. Mdu Ndawo	(c) 083 674 9994	Plot 405 and Plot 413 Versveld Road, Walkers Fruit Farms	mdu@kwandawo.co.za
9. Natasha O'Shea	(c) 082 266 8283	Plot 507 Arthur Street, Walkers Fruit Farms	natashaoshea@live.co.za
10. Gavin O'Shea	(c) 082 442 8904	Plot 507 Arthur Street, Walkers Fruit Farms	N/A
11. Ian McAusland	(c) 082 850 1171	Plot 391 Plantation Road, Walkers Fruit Farms	N/A

Stakeholders	Contact number	Address	email
12. Colleen McAusland	(c) 072 151 1194	Plot 391 Plantation Road, Walkers Fruit Farms	colleen@shirazanto.co.za
13. Jacques Claassen	(t) 016 423 1650 (c) 082 372 5061	383 Grade Road, Walkers Fruit Farms	vaal@mostotpestcontrol.co.za
14. Charline Middleditch	(t) 011 392 4155 (c) 082 552 9558	Plot 295 Foothill Road, Walkers Fruit Farms	charline@andycab.co.za
15. Celeste Steyn	(c) 082 873 0829	Plot 298 Foothill Road, Walkers Fruit Farms	celeststeyn@live.co.za
16. V.H. Thompson	(c) 081 208 1236	250 Meyerton Road, Walkers Fruit Farms	vict9099@yahoo.com
17. Gerald v Jansveld	(c) 082 907 6586	Plot 422 Woodlands Road, Walkers Fruit Farms	gerald.cuctainrails@gmail.com
18. Odett v Jansveld	(c) 083 253 4718	Plot 422 Woodlands Road, Walkers Fruit Farms	odettvj@gmail.com
19. Tanya Lelothwane	(c) 082 469 2006	Plot 258 Foothill Road, Walkers Fruit Farms	tanya@telecompabx.co.za
20. William Lelothwane	N/A	Plot 258 Foothill Road, Walkers Fruit Farms	N/A
21. Shaun Cilliers	(c) 071 551 3206	Plot 391 plantation Road, Walkers Fruit Farms	N/A
22. Maxine Currie	(c) 082 772 6057	Plot 73 5th Road, Walkers Fruit Farms	budger@alpec.co.za
23. Graham Currie	N/A	Plot 73 5th Road, Walkers Fruit Farms	N/A
24. Mekki Shanders	(c) 082 447 0829	Cnr Boundary and Daisy Roads, Walkers Fruit Farms	N/A
25. L. Bertolettie	(c) 078 459 5118	272 Foothill Road, Walkers Fruit Farms	N/A
26. C. Bertoletti	(c) 078 800 877 (incomplete)	272 Foothill Road, Walkers Fruit Farms	pbertoletti@worldonlive.co.za
27. George Pieterse	(c) 076 698 7749 (c) 082 624 0015	Plot 269 Power Road, Walkers Fruit	pietersevikigmail.com

Stakeholders	Contact number	Address	email
		Farms	
28. J.S. Swart	(c) 083 444 7521	Plot 294 Foothill Road, Walkers Fruit Farms	
29. Rolene Swart	(c) 083 670 0449	Plot 294 Foothill Road, Walkers Fruit Farms	luluswart@yahoo.com
30. Dewald Viljoen	(c) 082 850 4974	Plot 256 Foothill Road, Walkers Fruit Farms	dewaldv@mabundaine.co.za
31. Annalize Steenkamp	(c) 083 459 2088	Plot 294 Foothill Road, Walkers Fruit Farms	annualize@boltworld.co.za
32. Mr Mlipha	(c) 083 420 4856	Plot 254 Foothill Road, Walkers Fruit Farms	mliphag@webmail.co.za
33. Mrs Mlipha	(c) 083 420 4856	Plot 254 Walkers Fruit Farms	tibusele@ovi.com

8.4 Issues Raised by I&APs (Issues Report)

The following issues have been raised during the notification period:

- The main common concern is related to the fact that the proposed development is located within a Conservancy Area (Thorntree Conservancy).
- Concern has been raised regarding safety of residents due to the increased economic activities in the area.
- The potential impact on the local roads (in terms of traffic volumes and the capacity of the existing roads to accommodate heavy vehicles).
- Potential offending odours arising from the proposed facility may cause disturbance/nuisance to surrounding neighbours.
- Potential diseases associated with chicken broilers.
- Potential impact on water resources (potential contamination of groundwater and impact on the water table).
- Concerns were raised with regards to waste management at the proposed facility.

The full list of issues that have been raised during the notification period are documented in the Comments and Responses Report (Appendix E of the BAR). The Draft Basic Assessment Report and this WUL Draft Technical Report will also be made available for public review and comment, and a

public meeting to discuss the project will be scheduled. Any additional concerns or comments raised during the review period will also be addressed and documented in the Comments and Response Report.

9 Conclusion

This Technical Report has been compiled as supporting documentation for the Water Use License Application being submitted in terms of Section 21(a) of the National Water Act (Act 36 of 1998) – for the taking of water from a water resource. In the case of the proposed project, water will be abstracted from an existing borehole on the property for use in the operation of the proposed poultry farm.

This document provides the necessary background information so that the Department of Water Affairs can make an informed decision with regards to granting the requested Water Use License. This Draft Technical Report will be made available for public review. Any concerns or issues raised during this review period will be addressed in the final version of the document before submission to the Competent Authority (DWA) for review and decision-making.

10 References

Constitution of the Republic of South Africa. 1995: Act No 107 of 1996. Pretoria: Government Printer.

Environmental Impact Assessment (EIA) Regulations. 2010: Regulation 543 of 2010. Pretoria, Government Printer.

G&A Heritage. 2012: *Heritage Impact Assessment for the Proposed Walker Fruits Farm Poultry Development*. Unpublished.

National Environmental Management Act (NEMA). 1998: Act No107 of 1998 (as amended). Pretoria. Government Printer.

National Heritage Resources Act (NHRA). 1999: Act No. 25 of 1999. Pretoria. Government Printer.

National Water Act (NWA). 1998: Act No. 36 of 1998. Pretoria. Government Printer.

P3 Consulting. 2012: *Midvaal Tyre Pyrolysis Plant – Final Scoping Report (Version 1.2).* Unpublished.

Appendix A – Water Use License Application Forms

DW756 – Registration/Licensing Part 1 – Individual

DW760 – Registration/Licensing Part 2 – Section 21(a) of the National Water Act: Taking water from a water resource

DW784 – Supplementary water use information – Pump Technical Data

DW901 – Supplementary water use information – Property where water use occurs

DW902 – Supplementary water use information – Details of property owner

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

REGISTRATION/LICENSING PART 1 INDIVIDUAL

1. GENERAL INFORMATION

Mark the applicable option(s) with an *X* and/or complete details where applicable/available.

Indicate the nature of this application: ☒ New registration ☐ Minor change ☐ Formal amendment

Registration Number

2. PARTICULARS OF THE APPLICANT

2.1

Surname NAICKER

Initials A.A.

Title

Gender ☐ Male ☒ Female

Population Group ☐ Asian ☐ Black ☒ Coloured ☐ White

ID Number 7210280130087

2.2

Passport Number (if not a holder of an South African ID)

Expiry Date (ccyy/mm/dd)

Country Of Issue

2.3

VAT Registration Number None

2.4

Postal Address P.O. BOX 11745

VORNA VALLEY

MIDRAND Postal Code 1686

2.5

Street Address
(Only if diffferent from postal address) 139 CRANEFLOWER ROAD

SAVANNAH HILLS ESTATE

MIDRAND Postal Code 1686

2.6

Contact Telephone Number During Office Hours

Area/cell code Number Ext

Alternative Contact Number

Area/cell code 072 Number 6501177 Ext

2.7

E-mail ann.naicker@vodacom.co.za

3. CONTACT PERSON DETAILS

3.1	**Title**	MISS
3.2	**Name**	ANN
3.3	**Surname**	NAICKER
3.4	**Telephone**	
	Area/cell code	Number Ext
3.5	**Cell Phone Number**	
	Area/cell code	072 Number 6501177
3.6	**Fax**	
	Area/cell code	Number Ext
3.7	**E-mail**	ann.naicker@vodacom.co.za
3.8	**Preferred Form Of Communication**	E-MAIL

Declaration by applicant (or person who was granted power of attorney by the applicant)

Surname of delegated person:

Title:

Initials:

ID number:

Passport number:
(if not a holder of South African ID)
Expiry date (ccyy/mmdd):

Delete the words that are not applicable I/we _____ (FULL NAME(S)) hereby declare that the information provided by me/us in this application form is, to the best of my/our knowledge, true and correct.

Signature

Thumb print

Contact number during office hours

Designation of signatory

Date (ccyy/mm/dd)

It is a criminal offence to provide information that is false or misleading.

4. LIST OF PART 2 DOCUMENTS (WATER USE RELATED FORMS)

Mark with an X which of the following documents have been submitted with this application

☒	DW760 NWA-Section 21(a)	☐	DW768 NWA-Section 21(i)
☐	DW761 NWA-Section 21(b)	☐	DW780 NWA-Section 21(h)
☐	DW762 NWA-Section 21(b)	☐	DW805 NWA-Section 21(j)
☐	DW763 NWA-Section 21(c)	☐	DW806 NWA-Section 21(k)
☐	DW764 NWA-Section 21(d)	☒	DW901 Property or properties where water use occurs
☐	DW765 NWA-Section 21(e)	☒	DW902 Details of property owner
☐	DW766 NWA-Section 21(f)	☐	DW903 Actual/Monitored waste discharge details NWA-Section 21(f/h)
☐	DW767 NWA-Section 21(g)	☐	DW904 Actual/Monitored waste discharge details NWA-Section 21(e/g)

5. THIS SECTION IS RESERVED FOR OFFICE USE ONLY

5.1 Billing information

5.1.1 ☐☐ WMA for billing*

* Water Management Area Codes

01 Limpopo	05 Inkomati	09 Middle Vaal	13 Upper Orange	17 Olifants/Doorn
02 Luvuvhu/Letaba	06 Usutu-Mhlatuze	10 Lower Vaal	14 Lower Orange	18 Breede
03 Crocodile (W), Marico	07 Thukela	11 Mvoti-Umzimkulu	15 Fish-Tsitsikamma	19 Berg
04 Olifants	08 Upper Vaal	12 Mzimvubu-Keiskamma	16 Gouritz	

5.1.2 District Municipal Establishment Levy Payable ☐ Yes ☐ No

5.2 Mark with an X which of the following documents have been submitted with this application

☐ Certified copy of South African identity document

☐ Certified copy of passport

File number *(i.e. Office Hardcopy Register File No)*

Water Use Register Number

Received by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)

Date stamp of receiving office

Captured on NRWU database

Captured by:

Surname

Initials

Signature

Quality Assurance Executed by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Registration / Licensing — Section 21(a) of the National Water Act
Part 2 — TAKING WATER FROM A WATER RESOURCE

Mark the applicable option(s) with an X and/or complete details where applicable/available

1. WATER USE DETAILS

1.1 Have you already registered a water use with the Department of Water Affairs and Forestry?

☐ Yes ☒ No

Registration Number:

Water Use Number:

☐ Licence Related WU

RLA Reference

NRWU Licence Number

RLA Business Unit

(NRWU = National Register of Water Use; RLA = Responsible Licensing Authority; WU = Water Use)

1.2 Applicant Type (mark only one block with X)

- ☒ Individual (complete 1.3)
- ☐ Company, business, partnership or community (complete 1.4)
- ☐ National Department (complete 1.5)
- ☐ Provincial Department (complete 1.6)
- ☐ Water Services Provider (complete 1.7)
- ☐ Water User Association (complete 1.8)

1.3 If the applicant is an individual

1.3.1 Title: MISS Surname: NAICKER Initials: A A

1.3.2 South African ID (if holder of South African Id) alternatively Passport Number:

ID Number or Passport Number: 7 2 1 0 2 8 0 1 3 0 0 8 7

Passport Expiry Date (ccyymmdd):

Passport Country Of Issue:

For office use only

Allocated Reg. No. WU No.

1.4 If the applicant is a company, business, partnership or community:

1.4.1 Name of company, business, partnership or community:

1.4.2 Business Enterprise Registration Number | | | | | | | | | / | | |

1.4.3 Date Established (ccyymmdd) | | | | | | | | |

Country Where Established

1.5 If the applicant is a National Department:

1.5.1 National Department Name:

1.6 If the applicant is a Provincial Department:

1.6.1 Province:

1.6.2 Provincial Department Name:

1.7 If the applicant is a Water Services Provider:

1.7.1 Name of WSP:

1.8 If the applicant is a Water User Association:

1.8.1 Name of WUA:

Declaration by applicant

Delete the words that are not applicable I/we _____(FULL NAME(S)) hereby declare that the information provided by me/us in this application form is, to the best of my/our knowledge, true and correct.

Signature

Thumb print

Contact number during office hours

Designation of signatory

Date (ccyy/mm/dd)

It is a criminal offence to provide information that is false or misleading.

2. SUCCESSION/TRANSFER AND SOURCE PART 2 DETAILS

2.1 Is this a Succession or a Transfer related Water Use? (Mark only one box with an X)
☐ Yes
☒ No

2.2 If yes, mark with an X the Succession / Transfer Type
☐ Full Temporary Transfer ☐ Partial Temporary Transfer
☐ Permanent Transfer ☐ Succession in Title

2.3
Source Register Number ☐☐☐☐☐☐☐☐ WU Number ☐☐☐☐
Source Register Number ☐☐☐☐☐☐☐☐ WU Number ☐☐☐☐
Source Register Number ☐☐☐☐☐☐☐☐ WU Number ☐☐☐☐

3. WATER RESOURCE INFORMATION

3.1 Name of water resource: BOREHOLE

3.2 Name or reference number of abstraction point (if any): NONE

3.3 Type of water source (mark only one with X)
☐ River / stream ☐ Spring / Eye ☒ Borehole ☐ Dam ☐ Estuary
☐ Wetland ☐ Lake ☐ GWS (scheme) ☐ Boreholes And Windmills On Government Land

If water source is government water scheme, give the name:

3.4 Geographic location of the abstraction point

Latitude S 26 ° 30 ' 37.7 " or S ° or S ° ' "

Longitude E 27 ° 57 ' 40.5 " or E ° or E ° ' "

Datum Type: ☐ Cape (Modified Clarke 1880) ☒ WGS-84

3.5 Reliability of water resource (mark only one with an X)
☒ Water always available ☐ Dry during certain seasons ☐ Frequently Dry

3.6 Quaternary Drainage Region: C22E

4. DESCRIPTION OF WATER USE

4.1 Select only one WU sector – purpose of the WU: (NB: Complete a separate DW760/773 form for each sector if more than one is applicable)

☐ Agriculture: Aquaculture
☐ Agriculture: Irrigation (also complete form DW787)
☒ Agriculture: Watering Livestock
☐ Industrial (also complete form DW788)
☐ Mining (also complete form DW788)
☐ Power Generation (also complete DW788)
☐ Recreation
☐ Schedule 1
☐ Urban (excl. Domestic &/or Industrial)
☐ Water Supply Service (also complete form DW789)

4.2 Period of water use

Date of first use or proposed first use (ccyymmdd): 2 0 1 3 0 3 0 1

End date (if applicable) (ccyymmdd):

4.3 Volume of water abstracted (*minus a realistic estimate of the transmission losses in the case of a WUA / WSP related water use)

*WU /WSP: Transmission Loss (taken into account i.r.o gross volume)

	Start date (ccyymmdd)	Volume		Time interval (mark only one with X)			
a)			m³	☐ Daily	☐ Monthly	☐ Annually	%
b)			m³	☐ Daily	☐ Monthly	☐ Annually	%
c)			m³	☐ Daily	☐ Monthly	☐ Annually	%

4.4 Estimated water abstraction pattern: in total cubic meters ☒ or % per month ☐

Jan	210 [420] (630)	Apr	147 [294] (441)	Jul	210 [420] (630)	Oct	147 [294] (441)
Feb	147 [294] (441)	May	210 [420] (630)	Aug	147 [294] (441)	Nov	210 [420] (630)
Mar	210 [420] (630)	Jun	147 [294] (441)	Sep	210 [420] (630)	Dec	147 [294] (441)

4.5 Method of abstraction (mark with an X the abstraction method currently used or to be installed)

☒ Pump * ☐ Canal ☐ Gravity or outlet pipe ☐ Other (specify) **

* Also complete supplementary form DW784pmp ('Taking water from a water resource – pump technical data'), if 'pump' was selected.

** If the method of abstraction is not PUMP / CANAL / GRAVITY OR OUTLET PIPE, please define method utilised:

4.6 Number of households served with water (if known) 0

4.7 Is this water provided by a Water User Assosiation or Water Services Provider? ☐ WUA ☐ WSP

4.8 Name of Water User Assosiation / Water Services Provider:

5. EXISTING AUTHORISATION AND REGISTRATION (PERMIT INFORMATION)

5.1 Existing permit information

	Permit number	Date (ccyymmdd)
Permit No.		
Permit No.		
Permit No.		
Permit No.		
Permit No.		
Permit No.		

5.2 If water use takes place in terms of the General Authorisation, mark with an X ☐

*****If yes complete the following details after confirmation with relevant DWAF/CMA officials:

Date(s) from which applicable GA is/was applicable to this water use

South African Act: _____ Applicable section of the act _____

[E.g. National Water Act (Act No. 36 of 1998)] [E.g. Section 21]

Date From (ccyymmdd)		Government Notice No.	
Date To (ccyymmdd)		Government Notice Date (ccyymmdd)	
Applicable Section Of The General Authorisation			
Date From (ccyymmdd)		Government Notice No.	
Date To (ccyymmdd)		Government Notice Date (ccyymmdd)	
Applicable Section Of The General Authorisation			
Date From (ccyymmdd)		Government Notice No.	
Date To (ccyymmdd)		Government Notice Date (ccyymmdd)	
Applicable Section Of The General Authorisation			

5.3 If an authorisation has been issued under other legislation

Law /Regulation

6. SUBSIDY DETAILS

6.1 Resource Poor Farmer (RPF)

Should this WU application be considered for RPF subsidy? ☐ Yes ☒ No

7. PROPERTY RELATIONSHIP DETAILS *(Complete supplementary forms DW901 & DW902)*

Property Name	Surveyed Property		Unsurveyed property		Property Relationship Date From:	Property Relationship Date To:
ERF 255, WALKERS FRUIT FARM, WALKERVILLE, VEREENIGING	Title Deed Number	T000045103/2012	Surname of the Leader of Village, Community or Tribal Authority		22/06/2012	PRESENT
	Surveyor-General Cadastral Code	T00IQ00000000005300 255	Initial of the Leader of Village, Community or Tribal Authority			
	Property Number	53	Local Authority (if applicable)			
	Portion of property	255	Magisterial District (if applicable)			
			Tribal Authority/Council (if applicable)			
	Title Deed Number		Surname of the Leader of Village, Community or Tribal Authority			
	Surveyor-General Cadastral Code		Initial of the Leader of Village, Community or Tribal Authority			
	Property Number		Local Authority (if applicable)			
	Portion of property		Magisterial District (if applicable)			
			Tribal Authority/Council (if applicable)			
	Title Deed Number		Surname of the Leader of Village, Community or Tribal Authority			
	Surveyor-General Cadastral Code		Initial of the Leader of Village, Community or Tribal Authority			
	Property Number		Local Authority (if applicable)			
	Portion of property		Magisterial District (if applicable)			
			Tribal Authority/Council (if applicable)			
	Title Deed Number		Surname of the Leader of Village, Community or Tribal Authority			
	Surveyor-General Cadastral Code		Initial of the Leader of Village, Community or Tribal Authority			
	Property Number		Local Authority (if applicable)			
	Portion of property		Magisterial District (if applicable)			
			Tribal Authority/Council (if applicable)			

8. FOR OFFICE USE ONLY

8.1 List of attached forms and documents

8.1.1 Supplementary forms attached with this form (mark with an X)

- ☐ DW787: Irrigated Field and Crop Information
- ☐ DW788: Power Gemeration, Industrial or Mining Use
- ☐ DW789: Domestic, Urban, Commercial or Industrial Use

8.1.2 Specify the number of other documents submitted with this form (mark with an X)

- ☐ Environment impact assessment
- ☐ Other: (specify) D W
- ☐ Other: (specify) D W
- ☐ Other: (specify) D W
- ☐ Other: (specify) D W

8.2 Succession transfer and source Part 2 details

Source Register number	WU Number	WU Status to be allocated	WU Close Date (if applicable) (ccyymmdd)

8.3 Billing Information

				Start date (ccyymmdd)	End date (ccyymmdd)
8.3.1	Applicant to be billed as	☐ An Individual	☐ Via a WUA / WSP		
8.3.2	Applicant to be charged	☐ On actual volume	☐ Registered volume		
8.3.3	Billing frequency	☐ Annually	☐ Bi–annually ☐ Monthly		

8.3.4 If to be billed via a WUA / WSP

Name of WUA / WSP

Is WUA / WSP a Billing Agent? ☐ Yes ☐ No

Billing Agent's Register Number

8.3.5 If this WU is to be billed via a Bulk Billing Party that is not a WSP / WUA, complete the following:

Name of Customer

Bulk-Bill-to-Party Register Number

8.4 Water Resource Information

If water source is a Government Water Scheme, give the GWS name:

8.5 District Municipality

District Municipality Name (if applicable)

8.6 Late Registration Penalty

Is this a late registration? ☐ Yes ☐ No

If yes, mark with an X, the applicable penalty to be levied

☐ R300.00 OR

☐ 10% (ten percent) of the annual water use charge outstanding at the date of registration which ever is greater

Specify the penalty amount payable

☐ Waive penalty

File number

Water Use Register Number

Received by:

Surname Initials

Position / Rank

Signature

Captured on NRWU database (ccyymmdd)

Capured by:

Surname Initials

Signature

Date stamp of receiving office

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

SUPPLEMENTARY WATER USE INFORMATION

TAKING WATER FROM A WATER RESOURCE
PUMP TECHNICAL DATA

1. PUMP IDENTIFICATION

1.1 Pump number (if more than one, enter a sequence number starting from 001) 0 0 1

1.2 Installation date Y Y Y Y M M D D

1.3 Geographic location of the pump (use one format only)

S ° ' " *or* S . ° *or* S ° . ' Cape datum Clarke

E 0 ° ' " E 0 . ° E 0 ° . ' WGS-84 datum

2. PUMPING HOURS

2.1 Maximum pumping hours per week h 2.2 Total pumping hours per year h

3. PUMP DATA

3.1 Pump type (mark one with *X*)

a) Centrifugal b) Positive displacement c) Turbine d) Axial flow

e) Other (specify)

3.2 Pump model

3.3 Pulley diameter mm

3.4 Speed rpm

3.5 Impeller size (only for a centrifugal pump) mm

3.6 Suction hose

3.6.1 Hose material

3.6.2 Hose diameter mm

3.6.3 Hose length m

3.7 Type of flow meter (mark one with *X*)

a) Inline b) Bypass c) Doppler effect d) None e) Other (specify below)

3.8 Pressure gauge reading At inlet = m At outlet = m

4. POWER SOURCE DATA

4.1 Power source type (mark one with *X*)

☐ a) Electric ☐ b) Diesel ☐ c) Petrol ☐ d) Tractor ☐ e) Wind

☐ f) Other (specify)

4.2 Model

4.3 Pulley diameter mm

4.4 Speed rpm

4.5 Coupling:

a) Type (mark one with *X*)

☐ V-belt ☐ Flat belt ☐ Gearbox ☐ Direct ☐ Other (specify below)

b) For *gearbox coupling* or *direct coupling*, enter the ratio :

4.6 Power rating kW

5. PUMP OPERATION

		Maximum pressure	Maximum discharge	Average operation	
5.1	Discharge				litres / second
5.2	Suction height				metres
5.3	Static height				metres
5.4	Working height				metres
5.5	Friction height				metres
5.6	Other losses				metres
5.7	Total head				metres
5.8	Efficiency				%
5.9	Power absorbed				kilowatts
5.10	Ammeter reading				amps

6. BOREHOLE INFORMATION (where applicable)

6.1 a) Borehole number

b) Geographic location of the borehole, if different from pump

S ° ' " *or* S ° *or* S ° '

E 0 ° ' " E 0 ° E 0 ° '

Cape datum Clarke ☐

WGS-84 datum ☐

6.2 Yield of borehole litres / second

6.3 Depth of borehole metres

6.4 Previous authorisation or licensing reference

7. ESKOM TRANSFORMER (where applicable)

7.1 a) ESKOM reference number

b) Geographic location of the transformer, if different from pump

S ° ' " *or* S ° *or* S ° '

E 0 ° ' " E 0 ° E 0 ° '

Cape datum Clarke

WGS-84 datum

7.2 Power rating of the transformer kVA

FOR OFFICIAL USE ONLY

File number

Water use licence or registration number

Water Management Area

Received by:

Surname Initials

Rank

Signature

Captured by:

Initials

Date stamp of receiving office

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

SUPPLEMENTARY WATER USE INFORMATION
DETAILS OF PROPERTY OWNER

Should more than one property owner be applicable to a 'property where water use occurs', an additional DW902 must be completed for each additional property owner.

1. DETAILS OF PROPERTY OWNER

1.1 Nature of property owner (mark only one block with X)

- ☒ Individual (complete 1.2)
- ☐ Company, business, partnership or community (complete 1.3)
- ☐ National Department (complete 1.4)
- ☐ Provincial Department (complete 1.5)
- ☐ Water Services Provider (complete 1.6)
- ☐ Water User Association (complete 1.7)

1.2 If property owner is an individual

1.2.1 Surname: NAICKER Maiden Name:

Initials: A A Title: MS Position or official status:

Marital Status (mark only one):
- ☐ Married In Community Of Property
- ☐ Married Out Of Community Of Property
- ☒ Unmarried

1.2.2 If holder of South African ID:

ID Number: 7 2 1 0 2 8 0 1 3 0 0 8 7

1.2.3 If not holder of South African ID:

Passport No.:

Expiry Date (ccyymmdd):

Country of issue:

1.3 If the property owner is a company, business, partnership or community:

1.3.1 Name of company, business, partnership or community:

1.3.2 Trading name if different from name of company, business, partnership or community:

1.3.3 Type of Enterprise (mark only one with an X)

- ☐ 06 Public Company (Ltd)
- ☐ 07 Private Company (Pty) Ltd
- ☐ 08 Article 21 (Association inc under Section 21)
- ☐ 09 Limited By Guarantee
- ☐ 10 External Company
- ☐ 11 External Company under Article 21
- ☐ 20 Transvaal Ordinance
- ☐ 21 Incorporated (Inc)
- ☐ 22 Unlimited
- ☐ 23 Close Corporation (CC)
- ☐ Parastatal
- ☐ Trust
- ☐ Other [i.e. Non-CIPRO Company Types (e.g. Churches, Schools, Community Groups, etc.) excluding Trust & Parastatal]

1.3.4 Business Enterprise Registration Number | | | | | | | | | / | | |

1.3.5 Date Established (ccyymmdd) | | | | | | | | |

Country Where Established

1.4 If the property owner is a National Department:

1.4.1 National Department Name:

1.5 If the property owner is a Provincial Department:

1.5.1 Province:

1.5.2 Provincial Department Name:

1.6 If the property owner is a Water Services Provider:

1.6.1 Name of WSP:

1.7 If the property owner is a Water User Association:

1.7.1 Name of WUA:

1.8 Postal Address:

P.O. BOX 11745

VORNA VALLEY

MIDRAND Postal Code 1686

1.9 Street Address (only if different from postal address):

139 CRANEFLOWER ROAD

SAVANNAH HILLS ESTATE

MIDRAND Postal Code 1686

1.10 Contact Telephone Number During Office Hours

Area/cell code 072 Number 6501177 Ext

Alternative contact number

Area/cell code Number Ext

2. DECLARATION BY PROPERTY OWNER

2.1 Property owner or delegated person:

Surname

Initials Title

ID number

2.2 If not a holder of South African ID:

Passport No.

Expiry Date (ccyymmdd)

Country of issue

2.3 Position or official status:

2.4 I declare that the applicant defined in this application has lawful access to the property and carry out the water use activity or activities related to this application.

Signature Date (ccyymmdd) Thumbprint (only if requested)

3. LIST OF ATTACHED DOCUMENTS (mark each document type attached with an X)

3.1 ☒ Certified copy of identity document or passport.

3.2 ☒ Certified copy of Property Owner Document [refer Section 2 of DW901 (Property Title Deed or Deeds printout)].

3.3 ☐ Certified copy of lease agreement (refer paragraph 1.6 of DW901)

3.4 ☐ Certified copy of the "power of attorney" or appropriate supporting documentation

4. FOR OFFICE USE ONLY

Received by:

Surname

Initials

Position / Rank

Signature

Captured on NRWU database (ccyymmdd)

Captured by:

Surname

Initials

Signature

Date stamp of receiving office

Quality Assurance Executed by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)

water affairs
Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

SUPPLEMENTARY WATER USE INFORMATION
PROPERTY WHERE WATER USE OCCURS

DW901 serves to address the following: The property (or properties) where water use(s) is to take place.

•Complete one DW901 form for each property impacted / applicable to a water use registration application.

•Should more than one property owner be applicable to a "property where water occurs" an additional DW902 must be completed for each additional property owner.

1. PROPERTY WHERE WATER USE(S) OCCURS

1.1 Property where water use takes place (farm, stand or community): description as per the Deeds Act if applicable, or name of agricultural holding, farm, township, town or city.

ERF 255, WALKERS FRUIT FARMS, WALKERVILLE, VEREENIGING

Registration Date (ccyymmdd): 2 0 1 2 0 6 2 2

1.2 Property Type (mark only one with an X)

- ☒ Agricultural Holding
- ☐ Exclusive Use Areas (EUA)
- ☐ Sectional Scheme (To Obtain EUA)
- ☐ Sectional Scheme Unit
- ☐ Unspecified
- ☐ Erf
- ☐ Farm
- ☐ Sectional Scheme (to obtain units)
- ☐ Township
- ☐ Unsurveyed

1.3 If the property type is unsurveyed, complete the following:

a) Surname and initials of leader of village, community or tribal authority

Initials

b) Local Authority

&/or

c) Magisterial District

&/or

d) Tribal Authority/Council

1.4 If the property type is not equal to unsurveyed, complete the following:

a) Deeds Office: PRETORIA

b) Registration Division: I.Q.

c) Property No (i.e. Farm No./Erf No./Holding Area No./Scheme No.): HOLDING 255 WALKERS FRUIT FARMS SMALL HOLDINGS

d) Portion of Property: PORTION A OF PORTION OF THE FARM VARKENSFONTEIN NO. 53

e) Title Deed Number: 000045103/2012

f) Surveyor-General Cadastral Code

1		2		3		4		5
0	-	0	-	0 0 0 0	-	0 0 0 0 0 0 5 3	-	0 0 2 5 5

1. Refers to the Surveyor's-General Office (T = Pretoria, F = Free State, C = Cape Town & N = Kwazulu-Natal)
2. Major Code (Registration Division)
3. Minor code
4. Property No (i.e. Farm No./Erf No./Holding Area No./Sheme No.)
5. Portion Number

Note: All fields "left padded with 0"

1.5 Property Area Size

0 0 9 . 9 9 2 9 Measure Unit: ☒ Hectares ☐ Square Meters ☐ Acres

1.6 Ownership of the property (mark only one with an X)

☒ Property owned by applicant (100% Share value)
☐ Property owned by applicant (Share value less than 100%)
☐ Property leased by applicant
☐ The property is communal land

2. PROPERTY OWNER RELATIONSHIP

Individual (Identity Number or Passport Number)	Company, Business, Partnership or Community (Business Enterprise Registration Number)	Property Owner Name	Property Owner Document Number (Owner's Title Deed Reference Number)	Property Owner and Property Relationship Date		Owner Share Value %
				From:	To:	
7210280130087		MS A.A. NAICKER	000045103/2012	22/06/2012	PRESENT	100%

3. DECLARATION BY APPLICANT *(or person that was granted power of attorney by the applicant)*

Full names

Surname

Signature

Date (ccyy/mm/dd)

Thumbprint (only if requested)

4. FOR OFFICE USE ONLY

Received by:

Surname

Initials

Position / Rank

Signature

Captured on NRWU database (ccyymmdd)

Captured by:

Surname

Initials

Signature

Date stamp of receiving office

Quality Assurance Executed by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)

Appendix B – Property Information

Title Deed

Zoning Certificate

Borehole Test Certificate

EASTES
DRILLING

P O Box 193
Meyerton
1960

BOREHOLE TEST CERTIFICATE

THIS IS TO CERTIFY THAT THE BOREHOLE ON PLOT 255, MEYERTON ROAD, WALKERS FRUIT FARMS WAS CLEANED AND TESTED BY MYSELF SOME 5 TO 6 YEARS AGO.
THE BOREHOLE IS 60 METRES DEEP AND AT THAT TIME DELIVERY WAS 5000 LITRES PER HOUR.
THE BOREHOLE IS CURRENTLY NOT IN USE, IT NEEDS TO BE CLEANED AGAIN AND THEN A NEW PUMP NEEDS TO BE INSTALLED. THE PUMP, PIPES, ETC, THAT I INSTALLED HAD BEEN STOLEN.
IT WOULD BE ADVISABLE TO FIT AN ANTI-THEFT BRACKET TO SAFE GUARD THE NEW EQUIPMENT ONCE IT HAS BEEN REPLACED.

THOMAS ANTHONY EASTES
CELL: 0783611461
16-Nov-12

Appendix C – Water Abstraction Calculations

Estimated water abstraction volumes for first three years of raising 120 000 birdss per cycle:

- Week 1 to Week 6: ~7 500 litres per day (7.5m^3)
- Week 7 to Week 8: ~3 000 litres per day (3m^3)

Therefore, for the entire 8-week cycle, the total expected water abstraction is:

Week 1 to Week 6	Week 7 to Week 8
(6 weeks) x (7 days/week) x (7.5m^3/day)	(2 weeks) x (7 days/week) x (3m^3/day)
= 315m^3	= 42m^3
Total water abstraction per 8-week cycle = 315m^3 + 42m^3 = **357m^3**	

Thus the expected annual water abstraction during the first three years (120 000 birdss per cycle) is calculated as below:

(52 weeks/year) / (8 weeks) = 6.5 eight-week cycles per year

(6.5 cycles/year) x (357m^3/cycle) = **2 320.5m^3 per year**

Based on these calculations, and the assumption that if the capacity of birds is doubled (240 000) and trebled (360 000), the required water volumes will also double and treble respectively, the following annual abstraction is expected:

- **240 000** birds per cycle will require **4 641m^3** water per annum (2 320.5m^3 x 2); and
- **360 000** birds per cycle will require **6 961.5m^3** water per annum (2 320.5 m^3 x 3).

Appendix D – Draft Basic Assessment Report