



edtea

Department :  
Economic Development, Tourism and  
Environmental Affairs

PROVINCE OF KWAZULU-NATAL

(For official use only)

EIA File Reference Number:

DC/22 /0044/2014

NEAS Reference Number:

KZN/EIA/

Waste Management Licence Number:  
(if applicable)

DC22/WML/0056/2014

Date Received:

## DRAFT BASIC ASSESSMENT REPORT

### Proposed expansion of the Ndiza Poultry Breeders facility, Kildaragh Farm, Dargle.

(Environmental Impact Assessment and Waste Licence Application)

Submitted in terms of the Environmental Impact Assessment Regulations, 2010  
promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107  
of 1998)

This template may be used for the following applications:

- **Environmental Authorization** subject to basic assessment for an activity that is listed in Listing Notices 1 or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- **Waste Management Licence** for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Economic Development, Tourism & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
9. The KZN Department of Economic Development, Tourism & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24

## Basic Assessment Report

O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.

11. **Please note that this report must be handed in or posted to the District Office of the KZN Department of Economic Development, Tourism & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).**

## DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	<b>DC22/0044/2014</b>
File reference number (Waste Management Licence):	<b>DC22/WML/0056/2014</b>

## SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

### 1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	<b>Terratest (Pty) Ltd</b>		
Physical address:	<b>6 Pin Oak Avenue, Hilton, 3245</b>		
Postal address:	<b>PO Box 794, Hilton, 3245</b>		
Postal code:	<b>3245</b>	Cell:	<b>076 157 9602</b>
Telephone:	<b>033 343 6789</b>	Fax:	<b>033 343 6788</b>
E-mail:	<b>summersi@terratest.co.za</b>		

### 2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
<b>Magnus van Rooyen</b>	<b>BSc Hons; MPhil (Env. Man.)</b>	<b>IAIASA</b>	<b>11 Years</b>
<b>Imke Summers</b>	<b>BSc Hons (Env. Sci)</b>	<b>IAIASa KZN (Membership No. 2930)</b>	<b>4 years</b>

### 3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
<b>Jake Alletson</b>	<b>BSc, BSc (Hons)</b>	<b>Botany, Zoology, Aquatic ecology including rivers and wetlands</b>	<b>Section C, No.4.</b>	<b>Wetland Assessment</b>

## Basic Assessment Report

<b>Ernest Oakes</b>	<b>BSc, BSc (Hons), MSc</b>	<b>Hydrology, Soil Science</b>	<b>Section C, No.3</b>	<b>Storm Water Management Plan (SWMP)</b>
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## SECTION B: ACTIVITY INFORMATION

### 1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

**Proposed expansion of the Ndiza Poultry Breeders Facility, Kildaragh Farm, Dargle.**

### 2. PROJECT DESCRIPTION

Provide a detailed description of the project:

#### Introduction:

Terratest (Pty) Ltd has been appointed by the Ndiza Poultry Breeders to conduct the Environmental Authorisation Process for the proposed expansion of poultry laying and rearing facilities. In addition to this, a Waste Management Licence is also required. Terratest (Pty) Ltd will be undertaking both Application Processes via the compilation and submission of a Basic Assessment Report.

The proposed expansion includes the construction of three new chicken houses and associated infrastructure. The property on which the expansion is proposed is described as Portion 32 of the Farm Middel Bosch No. 897, uMngeni Local Municipality. This property is owned by the Project Applicant. The property is approximately 17 ha in extent, though the footprint of the proposed development will be limited to approximately 0.35 ha.

The property is currently the site of an existing poultry operation. The sites identified for development have been previously cultivated and are comprised of kikuyu pasture or fruit orchards. No sensitive environments such as watercourses, wetlands or natural forests occur within the proposed development footprint, although these do occur within 500m of the sites identified for development. Potential impacts on these systems as a result of the proposed expansion have therefore been identified and investigated in this report.

#### Existing Infrastructure:

The farm is a working farm which has existing agricultural infrastructure on site. This includes two closed environment<sup>1</sup> rearing sheds, four open environment<sup>2</sup> rearing sheds, storage sheds, an egg room, a homestead, a flat, staff accommodations and associated access roads. Existing water infrastructure includes three boreholes which service the whole farm, and a reserve borehole, which has been sunk, but not used. Effluent infrastructure includes 5 septic tanks and 2 soak pits for existing shower / toilet facilities close to each poultry shed. These are not in close proximity to any water source that could be contaminated.

#### Process flow:

At present 6300 females and 600 males are delivered to the farm as day old chicks every 12 weeks. These chicks are kept in rearing house until they reach sexual maturity, with the ability to produce eggs (females). After 12 weeks the cocks and hens are then transferred to the layer houses. A layer house is a poultry unit specifically designed to hold nest boxes or layer cages. Cocks and hens are kept in these houses to produce eggs which are fertilised. These eggs are collected by Daybreak Farms, to hatch as broiler chicks. The hens and cocks are then sold to cull buyers.

At the end of each production cycle, the chicken litter, which covers the floor of the chicken house, is taken from the chicken house and temporarily stored on site. From

<sup>1</sup>A closed environment entails a completely sealed environment with no windows and openings.

<sup>2</sup> An open environment entails open sided sheds.

here, a farmer collects the litter and transports it to his farm where it is used as fertiliser in crop fields. Once cleared, the floors are washed with disinfectants and soap (which are SANAS and internationally approved for the poultry industry so that the chickens may be marketed overseas) and are then allowed to dry. No water is allowed to leave the building and the house stands unused until the floor is fully dry and a fresh bedding can be put down.

**The Proposed Development:**

It is proposed that the existing poultry operations currently owned and operated by the Ndiza Poultry Breeders, be expanded. As with most agricultural enterprises there is a continuing need to expand the current operation in order to be more efficient and economically viable as well as a need to meet the ever increasing demand for poultry products in South Africa. Ndiza Poultry Breeders currently supply Afgri Poultry with fertile eggs for their Bela Bela hatchery (i.e. Daybreak Farms). This hatchery is increasing chick supply to the broiler farms. Afgri Poultry have asked Ndiza Poultry Breeders to increase hatching egg supply to them in order to meet current demand. This expansion would constitute the construction of three new chicken houses, as well as associated roads and infrastructure.

Two laying houses and one rearing house are proposed. The two laying houses will measure 15m x 72m and will have the capacity to hold approximately 6500 birds each. These two structures will have an open environment and include staff facilities such as ablutions, a kitchen etc. The third structure will be a rearing house measuring 18m x 60m and will be a closed environment, but will also contain the necessary amenities. These houses will have the capacity to hold approximately 6500 birds each, resulting in a total number of approximately 60 000 birds on site (including the existing and proposed houses). The access road to the houses will be extended by approximately 30 metres, with a width of 8 metres.

The proposed houses will make use of some of the latest technology available for ventilation, lighting, heating and cooling. Environmental conditions such as temperature and lighting play a very important role in bird growth and development and will therefore be carefully controlled. The proposed houses will also make use of latest technology for automatic feed and water distribution.

Preferred sites for the location of the rearing and layer houses have been identified. Alternative locations have not been identified for the proposed development due to various constraints, including topography, access, bio-control, as well as existing electricity supply, water and road infrastructure. Please refer to Appendix A: Layout Plan and Appendix C: Facility Illustrations.

**Associated Services:**

An operational poultry facility currently exists on the property. Many of the services and infrastructure required for poultry production therefore already exist on the property.

**(i) Electricity**

Electricity for the proposed expansion will be sourced from existing Eskom supply on the property. There will be a need to move an existing line which runs through the proposed site of the laying houses. The Applicant has contacted Eskom in this regard and is aware of the associated process and costs involved. No further correspondence has been received to date.

**(ii) Water**

At present, water for the poultry facilities, dwelling, staff accommodations and the office is abstracted from three on site boreholes. A reserve borehole exists on the site but is not being utilised. The client is in the process of applying for a Water Use Licence to formalise the onsite boreholes and the abstraction of water from the

boreholes. Water for the additional poultry houses will be sourced from the existing boreholes.

The current onsite water use amounts to 296.1m<sup>3</sup>/month. The total volume of water to be abstracted by all of the poultry facilities will amount to 456.6m<sup>3</sup>/month. According to the borehole testing undertaken, the boreholes have the capacity to provide this volume of water, from two of the boreholes, thus covering the current and proposed future water use requirements on the property, which are being applied for through the WULA.

**(iii) Stormwater**

A Stormwater Management Plan (SWMP) has been developed to fulfil the criteria set out in the Department of Water Affairs and Sanitation (DWS) Water Use Licence Application (WULA) process. The SWMP has been developed to mitigate the impact of additional flood waters (increased flood peak) resulting from the proposed development, as a result of the increase in hardened surfaces, and to ensure that clean stormwater runoff emanating from the exterior of the chicken houses, and their surrounding areas, is effectively diverted in a controlled manner to the receiving environment.<sup>3</sup>

**(iv) Sewage**

As part of the proposed new poultry houses, it will be necessary to establish ablution and shower facilities. These are required to allow staff to shower in and out of the laying and rearing facilities as part of the on-site biosecurity procedures. These facilities are proposed to comprise of one shower and one toilet per house.

No existing sewerage reticulation exists in close proximity to the proposed development sites. Septic tanks and soak aways are therefore proposed to be established for the treatment of grey water and waste emanating from staff shower and ablution facilities.

The existing onsite septic tank and soak away facilities are located in close proximity to each poultry shed. The soak aways do not have any impact on the existing boreholes, as can be seen by the water test results (see Appendix G). These tests are conducted by the Applicant, as required for quality purposes by Afgri Poultry Egg Producers (the end buyer). These water tests, which are conducted every 4-6 weeks, also indicate whether the water is fit for human and animal consumption.

Input is being sought by the Applicant from a Geohydrologist regarding the final siting of the septic tanks and soakaways, as the siting should take into consideration surface stormwater flows, subsoil seepage and local groundwater conditions.

**(v) Solid waste**

Solid waste produced during the process consists of household waste, and chicken litter. Household waste feeds into the municipal waste stream. See Section viii below for further details on chicken litter waste disposal.

**(vi) Mortalities**

Mortalities from the new houses will be disposed of in an on-site in an existing mortality pit.

**(vii) Cleaning and Wash water**

Cleaning of the proposed new houses will be conducted in the same way as it has been done at the existing houses: once the rearing period of 21 weeks is complete, the hens and cocks are moved to the layer sheds. Here the hens will lay eggs from 22 to 64 weeks. After each cycle has been completed (rearing and laying) and the birds

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<sup>3</sup> Zondi, N., 2015: *Kildaragh Poultry Expansion Stormwater Management Plan Report*, Terratest, KwaZulu-Natal.

have been removed from the houses (sold as cull hens and breeding cocks to end users), litter will be scraped out of the building and stockpiled at a designated site on the farm. The inside of the houses will be hosed down and washed. Water which accumulates will settle on the floor of the house and be allowed to evaporate and dissipate as the floors are made of compacted soil. Any debris remaining following this washing and drying will be swept out. There is therefore no need to establish a washwater drainage and management system for the new houses. There is no poultry liquid effluent.

**(viii) Litter**

Litter generated within the proposed new houses will be removed at the end of each cycle (approximately every 5 months for the rearing houses and 12 months for the laying houses) and will be fed into the existing litter disposal system on the site; i.e. the manure is cleaned out of the sheds using bobcat plant, transferred onto a tractor/trailer and is stockpiled on the adjacent kikuyu field. The manure is given to local farmers as fertiliser. The litter consists of dry chicken manure with a volume of approximately +65 388 kg's/month (existing and proposed houses). This will require the completion of a Waste Licence Application, (Reference: DC22/WML/0056/2014), as per Government Notice No. 921 - Category A, Activity Number 10: "The disposal of general waste to land covering an area of more than 50m<sup>2</sup> but less than 200m<sup>2</sup> and with a total capacity not exceeding 25 000 tons." A Waste Management Licence Application has been submitted to the Competent Authority in this regard.

**(ix) Wetlands and Watercourses**

Numerous databases (Ezemvelo KZN Wildlife Minset, National Freshwater Ecosystem Protected Areas [NFEPA] etc.) were assessed, and then groundtruthing undertaken to determine what wetland and watercourses were found on site or within a 500m radius of the site. It was found that no wetlands are found on the proposed property. Water infrastructure on site includes a small service dam and four boreholes. Wetlands and dam systems also occur within a 500m radius of the site. The assessment undertaken determined that, the proposed project will have no effects on those systems.

### 3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June 2010), Listing Notice 3 (GNR 546, 18 June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

<p><b>GN. R 544 (Listing Notice 1)</b></p>	<p><b>32</b></p>	<p><b>As poultry structures exist on site, the site is situated outside an urban area and because each proposed shed will accommodate 6500 birds, the below listed activity is triggered:</b></p> <p><b><i>"The expansion of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by:</i></b></p> <p><b><i>(ii) More than 5000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days."</i></b></p>
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<p><b>GN. R 983 (Listing Notice 1)</b></p>	<p><b>40</b></p>	<p>As poultry structures exist on site, the site is situated outside an urban area and because each proposed shed will accommodate 6500 birds, the below listed activity is triggered:</p> <p><i>“The expansion and related operation of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by- (ii) more than 5000 poultry per facility situated outside an urban area.”</i></p>
<p><b>GN. R 921 (Category A)</b></p>	<p><b>10</b></p>	<p>The disposal of the litter collected at the end of each cycle, to land, requires the undertaking of the below mentioned listed activity, and requires the completion of a Basic Assessment Report.</p> <p><i>“The disposal of general waste to land covering an area of more than 50m<sup>2</sup> but less than 200m<sup>2</sup> and with a total capacity not exceeding 25 000 tons.”</i></p>
<p><b>GN. R 921 (Category C)</b></p>	<p><b>1</b></p>	<p>Chicken litter (general waste) will be stored on site at the end of each cycle. This chicken litter will exceed 100m<sup>3</sup> in volume, thus triggering the need to undertake waste management activities under Category C, as listed below:</p> <p><i>“The storage of general waste at a facility that has the capacity to store in excess of 100m<sup>3</sup> of general waste at any one time, excluding the storage of water in lagoons or temporary storage of such waste.”</i></p> <p>This will require compliance with the (a) Norms and Standards for Storage of Waste, 2013.</p>

#### 4. FEASIBLE AND REASONABLE ALTERNATIVES

**“alternatives”**, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

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

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this

## Basic Assessment Report

report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Sections B 5 – 15 below should be completed for each alternative.

### 5. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

#### Preferred Locations:

**Latitude (S):**                      **Longitude (E):**

Open Poultry Shed 1 (Laying house)	29°	28'	42.64"	30°	04'	34.98"
Open Poultry Shed 2 (Laying house)	29°	28'	43.63"	30°	04'	33.80"
Closed Poultry Shed (Rearing house)	29°	28'	48.03"	30°	04'	19.85"

#### Alternate Site 1:

**Latitude (S):**                      **Longitude (E):**

Open Poultry Shed 1 (Laying house)	No alternate site identified
Open Poultry Shed 2 (Laying house)	No alternate site identified
Closed Poultry Shed (Rearing house)	No alternate site identified

#### In the case of linear activities:

Alternative:	Latitude (S):	Longitude (E):
Alternative S1 (preferred or only route alternative)		
• Starting point of the activity	0	0
• Middle point of the activity	0	0
• End point of the activity	0	0
Alternative S2 (if any)		
• Starting point of the activity	0	0
• Middle point of the activity	0	0
• End point of the activity	0	0
Alternative S3 (if any)		
• Starting point of the activity	0	0
• Middle point of the activity	0	0
• End point of the activity	0	0

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment.

### 6. PHYSICAL SIZE OF THE ACTIVITY

## Basic Assessment Report

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	Size of the activity:
Alternative A1 <sup>4</sup> (preferred activity alternative) <b>Rearing house</b>	<b>1080m<sup>2</sup></b>
<b>Laying houses</b>	<b>1080m<sup>2</sup></b>
Alternative A2 (if any)	m <sup>2</sup>
Alternative A3 (if any)	m <sup>2</sup>

or, for linear activities:

Alternative:	Length of the activity:
Alternative A1 (preferred activity alternative) <b>Rearing house</b>	<b>60m</b>
<b>Laying houses</b>	<b>72m</b>
Alternative A2 (if any)	m
Alternative A3 (if any)	m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative) <b>Rearing house</b>	<b>~1200m<sup>2</sup></b>
<b>Laying houses</b>	<b>~1200m<sup>2</sup></b>
Alternative A2 (if any)	m <sup>2</sup>
Alternative A3 (if any)	m <sup>2</sup>

### 7. SITE ACCESS

Does ready access to the site exist?

<b>YES</b>	
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If NO, what is the distance over which a new access road will be built

m
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Describe the type of access road planned:

- **From Pietermaritzburg, travel northwards along the N3;**
- **Take exit 107 towards Tweedie;**
- **Turn left onto Old Main Road;**
- **Turn right onto the R103;**
- **After approximately 5.1km, turn left onto the Dargle/Impendle road;**
- **Travel for approximately 5.9km before turning right;**
- **Turn left into Kildaragh Farm.**

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

### 8. SITE OR ROUTE PLAN

<sup>4</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

## Basic Assessment Report

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this report.

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/ erf/ farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;
- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - rivers, streams, drainage lines or wetlands;
  - the 1:100 year flood line (where available or where it is required by DWA);
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 8.10. the positions from where photographs of the site were taken.

### 9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

### 10. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

### 11. ACTIVITY MOTIVATION

#### 11.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?

R 5 000 000
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## Basic Assessment Report

What is the expected yearly income that will be generated by or as a result of the activity?	<b>R 12 000 000</b>
Will the activity contribute to service infrastructure?	<b>NO</b>
Is the activity a public amenity?	<b>NO</b>
How many new employment opportunities will be created in the development phase of the activity?	<b>7</b>
What is the expected value of the employment opportunities during the development phase?	<b>R 250 000</b>
What percentage of this will accrue to previously disadvantaged individuals?	<b>0%</b>
How many permanent new employment opportunities will be created during the operational phase of the activity?	<b>15</b>
What is the expected current value of the employment opportunities during the first 10 years?	<b>R 10 000 000</b>
What percentage of this will accrue to previously disadvantaged individuals?	<b>30%</b>

### 11.2. Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

1. **The activity is demand driven; as with most agricultural enterprises there is a continuing need to expand the current operation in order to be more efficient and economically viable, as well as a need to meet the ever increasing demand for poultry products in South Africa. This is illustrated by the fact that the client, Afgri Poultry, have requested Ndiza Poultry to expand their operations in order to meet current demand.**
2. **The eggs supplied are used to supply chickens into the market place for the maintenance of laying flocks (which provide table eggs for human consumption) and broiler flocks for meat production. This also has associated food security benefits.**

Indicate any benefits that the activity will have for society in general:

1. **The provision of employment for members of the surrounding community.**
2. **An increase in the amount of locally produced poultry would lessen the need for importation of poultry and therefore help to keep poultry prices low, as well as meeting the ever increasing demand for poultry products in South Africa.**

Indicate any benefits that the activity will have for the local communities where the activity will be located:

1. **Any expansion will also create 7 new additional members of staff, as well as extra part time employment at various times, such as during vaccinations, placement of chicks and depletions of the houses. Staff will be drawn from the surrounding area.**
2. **Potential provision of employment downstream of the proposed development as a result of increased number of eggs being delivered. This would include employment related to the collection and delivery of eggs, handling and packing of eggs and administration and management of the associated hatchery.**
3. **An increase in the amount of locally produced poultry would lessen the need for importation of poultry and therefore help to keep poultry prices low.**
4. **The development will result in an increase in the amount of chicken litter available to the local farmers. This resource is much in demand and it is anticipated that the increase will be welcomed by the receiving farmers. Increased chicken litter volumes will enable farmers to minimise reliance on fertilisers, which are expensive and often harmful to the environment.**

## 12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (Act No 107 of 1998 [NEMA]) as amended	Department Economic Development, Tourism and Environmental Affairs (EDTEA)	1998
National Environmental Management: Waste Act (Act No 59 of 2008 [NEMWA])	Department Economic Development, Tourism and Environmental Affairs (EDTEA)	2008
National Water Act (Act No 36 of 1998)	Department of Water and Sanitation (DWS)	1998
National Forest Act (Act No 84 OF 1998)	Department of Agriculture Forestry and Fisheries (DAFF)	1998
National Heritage Resources Act (Act No 25 OF 1999)	South African Heritage Resources Agency (SAHRA)/ Amafa aKwaZulu-Natali (Amafa)	1999
National Environmental Management Protected Areas Act (Act No 57 OF 2003 [NEMPA])	Department of Environmental Affairs (DEA)	2003
National Environmental Management Biodiversity Act (Act 10 of 2004)	Department of Environmental Affairs (DEA)	2004

## 13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

### 13.1. Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	
	0.3m <sup>3</sup>

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of? (describe)

Topsoil generated by cut and fill activities will be utilised on site: either spread onto existing cropping lands, or onto the areas that are to be grassed on site.

All concrete will arrive on site ready mixed, there will therefore be no concrete bags requiring disposal.

Any general construction waste which may be generated during the construction phase will be stored in skips. General waste will be transported to the local municipal landfill site (located at Curry's Post) by either the municipality or a private waste disposal contractor. Service agreements in this regard will be obtained by the Applicant prior to the commencement of construction activities.

Should any hazardous wastes be generated during the construction phase, this will be stored in a designated, access controlled, sign posted and bunded storage area. This waste will be collected as and when necessary by an appropriate service provider and will be transported to the Shongweni Hazardous Waste Landfill Site for disposal.

The Environmental Management Programme (EMPr) will make provision for effective monitoring of the construction site to ensure that construction solid waste is never allowed to accumulate in volumes which may impact negatively on the environment.

Where will the construction solid waste be disposed of? (provide details of landfill site)

General solid waste will be disposed of the Curry's Post Landfill Site (uMngeni Local Municipality).

Hazardous construction wastes will be disposed of at the Shongweni Hazardous Waste (H:h) Landfill Site (eThekweni Metropolitan Municipality).

Will the activity produce solid waste during its operational phase?

YES

If yes, what estimated quantity will be produced per month?

+65 300  
kg's/month

How will the solid waste be disposed of? (provide details of landfill site)

Solid waste will be produced predominantly through the cleaning of chicken manure and wood shavings from the sheds at the end of each of the various cycles. This manure (approximately 65 000 kg's/month for the existing and proposed houses) will be cleaned from the sheds and temporarily stockpiled (1-2 days) in the same field that the proposed laying houses will be located. From here the stockpiled material is collected by farmers and spread on agricultural land as an organic fertiliser.

It is not anticipated that the proposed development will result in solid waste requiring disposal at a landfill site. General waste produced at the homestead will feed into the exiting municipal waste stream. Wastes generated on the site during both the construction and operational phases should be separated to facilitate recycling. This could be aided by the provision of labelled bins for each of the different recyclable waste types. Recyclables could be dropped at the depot in Howick. Scrap metals should be directed to a scrap metal dealer.

Feed is delivered to the property in trucks and is deposited straight into the feed silos. There is therefore no feed-packaging waste generated.

Any veterinary waste generated will be removed from the site by the vet. This waste will feed into the vet's established veterinary waste disposal stream.

Mortalities will be disposed of at the existing mortality pit on the site.

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

**Mortalities will be disposed of at the existing mortality pit located on the property.**

**Chicken litter will feed into the existing disposal stream and will be sold to local farmers as fertiliser.**

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.

**There are no further requirements for the disposal of solid wastes as described above.**

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? 

	NO
--	----

**If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.**

Is the activity that is being applied for a solid waste handling or treatment facility? 

	NO
--	----

**If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.**

### 13.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? 

	NO
--	----

If yes, what estimated quantity will be produced per month? 

	m <sup>3</sup>
--	----------------

Will the activity produce any effluent that will be treated and/or disposed of on site? 

YES	
-----	--

**If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.**

Will the activity produce effluent that will be treated and/or disposed of at another facility? 

	NO
--	----

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

--

### 13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere? 

YES	
-----	--

If yes, is it controlled by any legislation of any sphere of government? 

YES	NO
-----	----



**If yes, contact the KZN Department of Economic Development, Tourism & Environmental Affairs to obtain clarity regarding the process requirements for your application.**

If no, describe the emissions in terms of type and concentration:

**Dust: Dust will be generated during the construction phase as a result of increased traffic on gravel roads and vegetation clearing activities. This will have a negative impact but will be short term and low to moderate in nature. Dust impacts could be easily mitigated on the site by employing the following:**

- During construction and only where necessary, access roads and areas which have been cleared of vegetation can be treated with a dust suppressant, or should be lightly dampened (if sufficient water resources are available) to prevent wind-blown dust, especially during high-wind conditions.
- Development areas should only be cleared of vegetation immediately prior to the commencement of construction.
- Following construction, cleared areas should be rehabilitated as soon as possible.

**Emissions: Vehicle emissions will increase during the construction phase as a result of increased traffic to the site as well as the operation of large plant. This will have a negative impact but will be short term and low to moderate in nature. Emission impacts could be easily mitigated by employing the following:**

- Vehicles that access the site during the construction phase of the development must be properly maintained. The Contractor will be responsible for ensuring that exhaust emissions from vehicles are controlled.

#### 13.4. Generation of noise

Will the activity generate noise?

YES	
	NO

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the noise in terms of type and level:

**Noise would be created during the construction phase of the proposed development as a result of increased traffic volumes and the operation of large plant and machinery on the construction site. This construction noise will be short-term and low to moderate in nature.**

**It is not anticipated that these noise impacts will cause unacceptable impacts on neighbours as the proposed development sites are located far away from neighbouring residences. Noise impacts associated with construction activities may, however, adversely affect the birds on the site, interrupting and hindering laying cycles. Noise impacts should therefore be minimised as far as possible.**

**In order to mitigate these impacts it is recommended that:**

- The Contractor endeavour to keep noise generating activities to a minimum.
- Construction workers should be encouraged to minimise unnecessary noise (e.g. limit hooting and shouting).
- All machinery and vehicles utilised on the construction site should be fitted with appropriate noise mufflers.
- It must be ensured that all machinery and vehicles undergo regular maintenance to ensure optimal functioning and minimise noise impacts.
- The Contractor should restrict all operations that result in undue noise disturbance to daylight hours on workdays (Monday to Friday).

**The Contractor shall be responsible for compliance with the relevant legislation with the respect to noise.**

## 14. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

municipal water board	<b>groundwater</b>	river, stream, dam or lake	other	the activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

**456.6 m<sup>3</sup>/month (for Boreholes 01 and 02, including the additional three houses)**

Does the activity require a water use permit from the Department of Water Affairs?

**YES**

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

**Borehole testing undertaken for the completion of the Hydrogeological Assessment<sup>5</sup> noted that of the three boreholes used on site (the reserve borehole was not tested), only Boreholes 01 and 02 should be used, as their sustainable yields are better. The boreholes are situated at the following co-ordinates:**

<b>Borehole 01</b>	<b>29°28'51.14"S</b>	<b>30° 4'21.08"E</b>
<b>Borehole 02</b>	<b>29°28'42.79"S</b>	<b>30° 4'33.26"E</b>

**A pre-consultation meeting has been held with the Department of Water and Sanitation, and the relevant Water Use Licence Application (WULA) is in the process of being completed.**

## 15. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

**The Applicant will implement the latest SKOV system technology, which ensures that ventilation, lighting, heating, cooling, automatic feed and water distribution systems are the most energy efficient and cost-effective systems implementable. SKOV is an industry leader on the international market for climate control and production monitoring of animal production.**

**In addition, the architectural design of the building will ensure that there is little to no heat loss, incorrect ventilation etc., which will minimise the energy footprint.**

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

**The Applicant will be using gas geysers for the showers at each of the ablution sites. This will ensure independence from the national energy grid.**

## SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

<sup>5</sup> **Geohydrological Investigation Sustainable Yield Calculation Of Three (3) Existing Boreholes on Kildaragh Farm – Dargle Area Final Report**

**Important notes:**

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.   
(e.g. A):

- Subsections 1 - 6 below must be completed for each alternative.

**The sites described below are being pursued as the preferred sites for development (no other sites are considered feasible) for the following reasons:**

- They are located at a distance away from other houses and flocks, maximising biosecurity;
- They are located close to existing Eskom power-lines, therefore representing the most economically feasible option for the provision of electricity to the new houses;
- The sites are relatively flat, reducing the need for cut and fill interventions, and as a result, minimising construction costs and environmental manipulation;
- The sites are located in areas where there will be little to no visual impact for neighbours; and
- The sites are easily accessible via existing roads.

**1. GRADIENT OF THE SITE**

Indicate the general gradient of the site.

**Alternative S1:**

Flat	1:50 1:20	–	1:20 1:15	–	1:15 – 1:10	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
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**Alternative S2 (if any):**

Flat	1:50 1:20	–	1:20 1:15	–	1:15 – 1:10	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
------	--------------	---	--------------	---	-------------	---------------	---	-------------	---------------------

**Alternative S3 (if any):**

Flat	1:50 1:20	–	1:20 1:15	–	1:15 – 1:10	1:10 1:7,5	–	1:7,5 – 1:5	Steeper than 1:5
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**2. LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site (Please cross the appropriate box).

**Alternative S1 (preferred site):**

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	<b>Undulating plain/low hills</b>	Dune	Sea-front
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**Alternative S2 (if any):**

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
-----------	---------	-----------------------------	---------------	-------------	-------	----------------------------	------	-----------

**Alternative S3 (if any):**


Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills	Dune	Sea-front
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**3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

**3.1. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE:**

**STORMWATER**

**\*Please note that the following specialist studies were undertaken as part of the Water Use Licencing Application (WULA), and have consequently fed into this assessment report.**

Has a specialist been consulted for the completion of this section?	<b>YES</b>	
If YES, please complete the following:		
Name of the specialist:	<b>Ernest Oakes</b>	
Qualification(s) of the specialist:	<b>BSc, BSc (Hons)</b>	
Postal address:	<b>PO Box 794, Hilton</b>	
Postal code:	<b>3245</b>	
Telephone:	<b>033 343 6789</b>	Cell: <b>072 588 2534</b>
E-mail:	<b>oakese@jgi.co.za</b>	Fax: <b>033 343 6788</b>
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?		<b>NO</b>
If YES, specify and explain:	<b>See Section 4 below for more details.</b>	
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?		<b>NO</b>
If YES, specify and explain:		
Are any further specialist studies recommended by the specialist?		<b>NO</b>
If YES, specify:		
If YES, is such a report(s) attached in <u>Appendix D</u> ?	YES	NO
Signature of specialist:		Date: <b>08/06/2015</b>

Is the site(s) located on any of the following (cross the appropriate boxes)?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	<b>NO</b>	YES NO	YES NO
Dolomite, sinkhole or doline areas	<b>NO</b>	YES NO	YES NO
Seasonally wet soils (often close to water bodies)	<b>NO</b>	YES NO	YES NO
Unstable rocky slopes or steep slopes with loose soil	<b>NO</b>	YES NO	YES NO
Dispersive soils (soils that dissolve in water)	<b>NO</b>	YES NO	YES NO
Soils with high clay content (clay fraction more than 40%)	<b>NO</b>	YES NO	YES NO
Any other unstable soil or geological feature	<b>NO</b>	YES NO	YES NO

## Basic Assessment Report

An area sensitive to erosion

	<b>NO</b>	YES	NO	YES	NO
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If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

**The findings of the Stormwater Management Plan indicate the following:<sup>6</sup>**

- “A diversion berm should be constructed around the stockpile site used for the temporary storage of chicken waste. This will ensure that runoff from the south-west is diverted around the storage site.
- It is thought that the prevention of dirty water emanating from the stockpiles may be prevented by covering the stockpiles with waterproof material in the likely occurrence of a rainfall event.
- A stormwater diversion channel (Drain 1) should be constructed adjacent to the west of proposed Laying House 1, starting from the north-west corner extending to the south-east corner.
- It is further proposed that a stormwater diversion channel (Drain 2) be constructed between proposed Laying Houses shed 1 and 2. Water draining from Drain 1 and 2 should be directed away from the chicken litter stockpile area.
- A stormwater diversion channel (Drain 3) should be constructed around the proposed Rearing House. It was proposed that the diversion channel should start from the east corner and extend around the south-west corner of the proposed Rearing House. The roof gutter should be provided to collect roof top water into Drain 3.
- It is recommended that a diversion berm is constructed around the temporary chicken litter stockpile area to divert clean runoff from the catchment area above its location. In order to prevent dirty stormwater emanating from the chicken litter stockpiles it is recommended that the litter is covered during the litter’s temporary storage especially in the likely occurrence of a rainfall event. The cover material should be waterproof in nature to prevent potential runoff from the litter and contamination of the receiving environment.
- It is further required that no mixing of clean water with contaminated (dirty) water occurs on site. This will ensure that the area designated for the temporary storage of chicken litter does not get flushed during storm events, resulting in contaminants entering the downstream environment.”

### 3.2. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE:

#### WETLANDS

**\*Please note that the following specialist studies were undertaken as part of the Water Use Licencing Application (WULA), and have consequently fed into this assessment report.**

Has a specialist been consulted for the completion of this section?


<b>YES</b>	
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If YES, please complete the following:

Name of the specialist:	<b>Jake Alletson</b>		
Qualification(s) of the specialist:	<b>BSc, BSc (Hons)</b>		
Postal address:	<b>PO Box 794, Hilton</b>		
Postal code:	<b>3245</b>		
Telephone:	<b>033 343 6789</b>	Cell:	<b>072 588 2534</b>
E-mail:	<b>alletsonj@jgi.co.za</b>	Fax:	<b>033 343 6788</b>

<sup>6</sup> Zondi, N., 2015: *Kildaragh Poultry Expansion Stormwater Management Plan Report*, Hilton.

## Basic Assessment Report

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?		<b>NO</b>
If YES, specify and explain:	<b>See Section 4 below for more details.</b>	
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?		<b>NO</b>
If YES, specify and explain:		
Are any further specialist studies recommended by the specialist?		<b>NO</b>
If YES, specify:		
If YES, is such a report(s) attached in <u>Appendix D</u> ?	YES	NO
Signature of specialist:	Date:	<b>08/06/2015</b>
		

Is the site(s) located on any of the following (cross the appropriate boxes)?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	<b>NO</b>	YES NO	YES NO
Dolomite, sinkhole or doline areas	<b>NO</b>	YES NO	YES NO
Seasonally wet soils (often close to water bodies)	<b>NO</b>	YES NO	YES NO
Unstable rocky slopes or steep slopes with loose soil	<b>NO</b>	YES NO	YES NO
Dispersive soils (soils that dissolve in water)	<b>NO</b>	YES NO	YES NO
Soils with high clay content (clay fraction more than 40%)	<b>NO</b>	YES NO	YES NO
Any other unstable soil or geological feature	<b>NO</b>	YES NO	YES NO
An area sensitive to erosion	<b>NO</b>	YES NO	YES NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

**The findings of the Wetland Assessment indicate that there are no wetland systems on the site. However, the WULA process requires wetlands/watercourses within 500m of the site to be identified and assessed. A 500 m buffer zone around the new houses was plotted and those wetlands which were within it were taken into consideration. The listed wetlands which are present in the general area are classified as "Alluvial Wetlands: Temperate Alluvial Vegetation" in the KZN Wetlands database and as "Natural" in the National Freshwater Ecosystem Priority Area (NFEPA) database. The latter database**

also includes some dams which are listed as “Artificial”. This study has shown that the project will have no effects on those systems. The reasons for this are as follows:

- The farming operation produces no solid or liquid wastes which could enter the wetlands;
- Surface water flows from the building sites lead to dams rather than to wetlands. Thus the retention times which will allow for any waste processing are large;
- The topography in the area is mostly flat and so surface water flows will be slow; and
- The waterways towards which the surface flows move are well protected by dense vegetation which will filter the flows.<sup>7</sup>

#### 4. GROUNDCOVER

Has a specialist been consulted for the completion of this section?	<b>YES</b>		
If YES, please complete the following:			
Name of the specialist:	<b>Jake Alletson</b>		
Qualification(s) of the specialist:	<b>BSc, BSc (Hons)</b>		
Postal address:	<b>PO Box 794, Hilton</b>		
Postal code:	<b>3245</b>		
Telephone:	<b>033 343 6789</b>	Cell:	<b>072 588 2534</b>
E-mail:	<b>alletsonj@jgi.co.za</b>	Fax:	<b>033 343 6788</b>
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?			<b>NO</b>

<sup>7</sup> Alletson, J, 2015.: *Assessment of the potential Impacts of three new chicken houses on the Kildaragh Chicken Farm on Wetlands And Watercourses In That Area, Hilton.*

## Basic Assessment Report

If YES, specify and explain:

An interrogation of the MINSET database indicated that the proposed development site is situated in a Biodiversity Protected Area 1 (Irreplaceable) and Biodiversity Protected Area (BPA) 2 (Highly Irreplaceable). The species listed in these BPA's include the following, but are not limited to:

- Cape parrot
- Mistbelt forests
- Buchanan's Hot Poker
- Cone-shaped snail
- Midlands floodplain grassland
- Eastern temperate wetlands
- Karkloof blue butterfly
- Grasshopper and millipede species
- Natal midlands dwarf chameleon

(Please see Appendix G for a comprehensive list of MINSET species listed to occur on this site).

However, when the abovementioned database layers were overlaid with the EKZNW Transformed layer, and it could be seen that the site has been predominantly transformed. Groundtruthing confirmed that the landcover has been completely transformed and that indigenous vegetation does not presently occur on the site. Rather the existing landcover of the laying houses consists of Kikuyu pasture, and the site of the rearing house consists of a fruit orchard. To this end, it can be expected that the indigenous faunal species proposed to exist on site, will not occur there either.

When interrogating the Wetland and Watercourse Assessment, the nearest conservation area is Midmar Nature Reserve. It is some 7.5 km from the farm and so will not be affected. The chicken farm lies within the Dargle Conservancy area. But the development will not have any offsite impacts, as has been noted in the Wetland Assessment Report. The nearest important bird area is site ZA053 which is a part of the KwaZulu-Natal Mistbelt Forests site and is approximately two kilometres from the farm.<sup>8</sup> It is not anticipated that the proposed development will impact on any bird species in any way.

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?		<b>NO</b>
If YES, specify and explain:		
Are any further specialist studies recommended by the specialist?		<b>NO</b>
If YES, specify:		
If YES, is such a report(s) attached in Appendix D?	YES	NO

Signature of specialist:



Date:

**08/06/2015**

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

<sup>8</sup> Allerton, J, 2015.: *Assessment of the potential Impacts of three new chicken houses on the Kildaragh Chicken Farm on Wetlands And Watercourses In That Area*, Hilton.



## Basic Assessment Report

Natural veld - good condition <sup>E</sup>	Natural veld with scattered aliens <sup>E</sup>	Natural veld with heavy alien infestation <sup>E</sup>	Veld dominated by alien species <sup>E</sup>	Gardens
Sport field	<b>Cultivated land</b>	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

### 5. LAND USE CHARACTER OF SURROUNDING AREA

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

Land use character			Description
Natural area	<b>YES</b>		<p><b>Examination of the vegetation at the sites of the proposed new buildings revealed that the area is entirely transformed for agricultural purposes. There are no wetlands within the footprint of the buildings and the associated service roads and other such infrastructure.</b></p> <p><b>Pockets of indigenous forest vegetation are found in relatively close proximity to the proposed sites. However the closest forest is to the north of the farm, between 400m and 500m away. The vegetation is designated as Southern Mistbelt Forest (FOz3)<sup>9</sup>.</b></p> <p><b>Due to the distance of the forests to the proposed site, it is not anticipated that the construction or operational phases of the development will impact on the forests in any way. Therefore no impact on vegetation is anticipated in regard to the proposed development.</b></p>
Low density residential	<b>YES</b>		<p><b>The farm owner, and family currently reside on the property and in fairly close proximity to the proposed development sites (particularly that of the rearing house).</b></p> <p><b>It is likely that these residences will be negatively impacted upon during the construction phase by increased noise and dust levels. These impacts</b></p>

<sup>9</sup> Mucina, L. & Rutherford, M.C. (eds) 2006. The vegetation of South Africa, Lesotho and Swaziland., *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

Basic Assessment Report

			<p>will, however, be short-lived and temporary in nature. It is recommended that the noise control and dust suppression measures included in the EMP be implemented during the construction phase in order to minimise and mitigate these impacts.</p> <p>During the operational phase, impacts experienced would include odour impacts. It is unlikely, however that odour levels would be significantly altered from current ambient conditions. This impact is therefore not anticipated to be significant in nature.</p>
Medium density residential		NO	
High density residential		NO	
Informal residential		NO	
Retail commercial & warehousing		NO	
Light industrial		NO	
Medium industrial		NO	
Heavy industrial		NO	
Power station		NO	
Office/consulting room		NO	
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir	YES		<p>A small dam is located on the property, to the south of the proposed rearing house. A number of small farm dams are located within 500 meters of the proposed development sites.</p> <p>Rearing house: The stormwater flows from the new rearing house for approximately 230 m toward a small seasonal drainage line on which a small dam has been built. The purpose of the dam was to provide habitat for waterfowl but it seldom contains any water and so does not serve that purpose well. No water is abstracted from it and the spillway only flows for short periods at times of very high rainfall. The ephemeral drainage line below the dam joins a perennial stream which then flows toward a wetland. The total distance from the dam to the wetland is approximately 600 m.</p>

Basic Assessment Report

			<p>Laying houses: The stormwater flows from the new laying houses flow through an area of Kikuyu pastures toward a line of dams. These dams are closely spaced and in some instances the water body of one will reach virtually to the toe of the wall above it. Thus the original nature of the drainage line is now difficult to determine. Water from the dams is used for irrigation and stock watering. The approximate distance from the houses to the nearest dam is 220 m.</p> <p>As there are no planned releases of potential contaminants or organic material from the proposed development during the operational phase, the developments will not have a negative impact on these systems. However mitigation measures in the form of a Stormwater Management Plan have been developed and included in the EMPr.</p>
Hospital/medical centre		NO	
School/ creche		NO	
Tertiary education facility		NO	
Church		NO	
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	
Airport		NO	
Harbour		NO	
Sport facilities		NO	
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture	YES		<p>The property on which development is proposed is currently utilised for agricultural activities, including chicken, and limited grazing for beef/sheep (raised exclusively for the farmer). The fruit orchard is not in use, but contains varying types of fruit trees.</p> <p>Cattle, sheep and existing poultry on the property may be disturbed by noise, dust and increased traffic associated with the construction phase. To mitigate this, the measures</p>

Basic Assessment Report

		<p>contained within the EMPr will need to be implemented.</p> <p>It is not anticipated that the operational phase of the development will impact negatively or significantly upon the agricultural activities.</p>
River, stream or wetland	YES	<p>No wetlands or watercourses occur on the sites proposed for the establishment of the rearing and laying houses. However, watercourses and associated wetland areas are located within 500m of the proposed development sites. A specialist assessment of the site has verified that no development will occur within these systems and that there will be no pollution impacts on the systems (see Specialist Report attached in Appendix D).</p> <ul style="list-style-type: none"> <li>• The wetland system which lies to the north-west of the development area, although it is within 500 m of the site, is protected by a ridge and so will not receive any flows from the new chicken houses.</li> <li>• The waterways towards which the surface flows move are well protected by dense vegetation which will filter the flows, if any potential solid or liquid waste is produced. This will only occur in the instance that the chicken litter that is temporarily stockpiled on site becomes wet during rainfall events.</li> </ul> <p>Mitigation measures with regards to the flow of water from the sites, to the surrounding wetland and watercourse system, have been listed in the SWMP.</p>
Nature conservation area	YES	<p>The site is situated within the Dargle Conservancy, and the management of the greater Midlands Conservancy. However the property itself is not listed as a formalised reserve. The closest protected area is Midmar Dam, which is some 7.5 km from the farm and so will not be affected.</p>
Mountain, hill or ridge	YES	<p>The proposed sites are situated on the side of a hill, with a gently undulating gradient. The property is shielded on all sides by trees, thus no visual impacts are anticipated.</p>

## Basic Assessment Report

			<b>Stormwater management measures have been implemented to prevent erosion and associated sedimentation impacts which may occur.</b>
Museum		<b>NO</b>	
Historical building		<b>NO</b>	
Protected Area		<b>NO</b>	
Graveyard		<b>NO</b>	
Archaeological site		<b>NO</b>	
Other land uses (describe)		<b>NO</b>	

### 6. CULTURAL/ HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site?		<b>NO</b>
If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.		
Briefly explain the recommendations of the specialist:		
Will any building or structure older than 60 years be affected in any way?		<b>NO</b>
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		<b>NO</b>
If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.		

**An investigation of the SAHRIS PaleoSensitivity Map<sup>10</sup> indicates that the sites falls within a 'Grey' zone, indicating that that there is no paleontological sensitivity on the site, and that no paleontological studies are required. In addition, the site is a completely transformed site consisting of disturbed land (a fruit orchard and pasture land) and therefore the likelihood of finding anything of significance is considered to be limited. Should anything be found during construction however, Amafa will be contacted immediately and operations will cease etc.**

## SECTION D: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT

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

<sup>10</sup> <http://www.sahra.org.za/sahris/map/palaeo>

## Basic Assessment Report

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  - (i) the site where the activity to which the application relates is or is to be undertaken; and
  - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
  - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  - (v) the local and district municipality which has jurisdiction in the area;
  - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
  - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
  - (i) one local newspaper; or
  - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  - (i) illiteracy;
  - (ii) disability; or
  - (iii) any other disadvantage.

**An advert was placed in The Witness on the 4<sup>th</sup> February 2015. Please see Appendix E for a copy thereof.**

## 2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
  - (i) that an application for environmental authorization has been submitted to the KZN Department of Economic Development, Tourism & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)

- (iii) a brief project description that includes the nature and location of the activity to which the application relates;
- (iv) where further information on the application can be obtained; and
- (iv) the manner in which and the person to whom representations in respect of the application may be made.

### 3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

**Site notices were placed at the entrance to the district dirt road which leads to the farm, along the district road, and at the entrance to Kildaragh Farm.**

### 4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Economic Development, Tourism & Environmental Affairs as appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

### 5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as Appendix E to this report.

### 6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental

## Basic Assessment Report

sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality?

YES  NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

**The Umgungundlovu District Municipality was emailed on the 23/02/2015 with a copy of the Background Information Document. To date, no correspondence has been received.**

Has any comment been received from the local municipality?

YES  NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

**Comment: uMngeni Municipality: Environmental Management Officer – 21 May 2015:**

1. "Whilst I was at this morning's Upper uMngeni Catchment Management Forum meeting, I saw that the Chairperson, Ms Penny Rees had a copy of an application calling for comment for EIA Ref: DC22/0044/2014 and EIA WML: DC22/WML/0056/2015: Proposed Expansion of the Ndiza Poultry Breeders Facility on Portion 32 of the Farm Middel Bosch No. 897."
2. "As the uMngeni Municipality appointed EMO I have not been provided with a copy of the application and hereby register the Municipality as an Interested and Affected Party."
3. "Can you please as a matter of urgency forward me the application so that I can provide comment."

**Response:**

1. Noted.
2. The uMngeni Municipality was initially emailed on the 23/02/2015 with a copy of the BID. Following Mr Hatting's email, an additional copy of the BID was submitted. The uMngeni Municipality is registered as an IAP on the project database.
3. A copy of the BID was emailed to Marc Hattingh on 23/02/2015 and again on the 21/05/2015.

**Comment: uMngeni Municipality: Environmental Management Officer - 21 May 2015**  
Whilst the need for the upgrade is seen, there is a concern about the impact on water resource (surface and ground).

**Response:** As part of the proposed upgrade, the water services on site are being licensed. The Water Use Licence Application (WULA) requires numerous specialist studies to be undertaken, and to be included with the submission of the WULA. These specialist studies (including a wetland assessment, borehole testing etc.) will be included in the Basic Assessment Report and will hopefully provide you with the relevant information required for comment, and put your mind at ease with regards to the conservation of water resources. Move all of this to the above section re Local Municipal comment

Has any comment been received from a traditional authority?

YES  NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

**The land is owned by the Applicant. There is no Traditional Authority.**

## 7. CONSULTATION WITH OTHER STAKEHOLDERS



## Basic Assessment Report

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES	<input type="checkbox"/>
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

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**Comment:** Dargle Conservancy - 8 February 2015

As it is an agricultural activity, we have no objection to the overall proposal. Our comments/concerns are as follows:

- 1) We encourage decision-making that promotes and protects the integrity of all watercourses. This includes due cognizance of mandatory buffer zones, sewage and waste water, treatment issues, storm water management and extraction.
- 2) We encourage the implementation of best practice, eco-friendly solutions and technologies with regard to water usage/water saving, and alternative energy supplies wherever possible.
- 3) We also request strict measures be implemented to prevent run-off of chicken waste into any watercourses.

**Response:**

1. The process will entail the formalisation of existing on site infrastructure, through the submission of a Water Use Licence Application (WULA). In conjunction with the WULA a number of specialist studies have been conducted. These include a Stormwater management Plan, Wetland Assessment, Geohydrological Assessment, and continuous water quality testing. The results of the assessments have indicated the following:

- **Buffers:** Although no wetland systems were noted on site, all systems within a 500m buffer of the proposed sites were assessed. It was determined, that through the current and proposed management practices (listed in the SWMP), that no wetlands or watercourses will be impacted by the development. It is not anticipated that any additional buffers will be required in this regard.
- **Sewage and wastewater:** Sewage and waste water feeds into existing onsite septic tanks and soak aways. Each shed has a septic tank and soakaway system. The solids are collected by honey sucker every 6 months. The liquids flow into the soakaway. The Applicant undertakes water quality testing of the boreholes approximately every 4-6 weeks. In this way it can be seen whether the septic tanks and soakways impact on the water quality of the boreholes.
- **Stormwater management:** A Stormwater Management Plan (SWMP) has been developed to counter the impacts of the proposed construction process on the receiving hydrological processes.
- **Extraction:** The Applicant is in the process of legalising their water abstraction (through existing on site boreholes) through the submission of a Water Use Licence Application (WULA).

2. The newest, most energy efficient technologies will be implemented in the houses to improve process and energy efficiency. Geysers will be run off gas. No additional measures have been considered at this stage.

3. The SWMP recommends measures to be implemented to manage the temporary stockpiling of the chicken litter following the cleaning of the chicken houses at the end of each cycle. This in turn will prevent the contamination of surface and groundwater, with chicken litter.

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**Comment:** Department of Transport: Transport Infrastructure and Regional Services - 11 March 2015

The application is in the process of being investigated and that you will be advised accordingly of this Departments comments.

**Response:** Noted.

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**Comment:** Ezemvelo KZN Wildlife - 20 March 2015

The Application has been received.

**Response:** Noted.

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**Comment: Eskom - 19 February 2015**

**This application has been sent to the Ladysmith office for investigation and reply.**

**Response: Noted**

**Comment: Telkom - 11 March 2015**

**Telkom SOC Ltd has no objection to this EIA subject to the following conditions:  
This company's existing overheads infrastructure, as indicated on the attached plan may be affected by the above mentioned proposal.**

**Alternations to existing infrastructure may be necessary. An estimate of the cost involved will be furnished upon receipt of written request. Kindly inform the applicant that should they require the infrastructure to be relocated, it will be undertaken at their request and cost.**

**This company cannot accept responsibility for any reinstatement costs and our infrastructure should be accessible at all times.**

**Telecommunications services position is shown as accurately as possible. These positions should be regarded as approximate only.**

**Response: The requirements/recommendations submitted by Telkom are noted and have been submitted to the Applicant. It is to be noted that no Telkom infrastructure will be impacted on by the proposed development.**

## SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

**Comment: W.J. Barnsley Partnership (Neighbouring Landowner) - 18 February 2015**

**None at this stage.**

**Response: None at this stage**

**Comment: Christopher Lee (Neighbouring Landowner) - 19 February 2015**

**From a personal point of view, I do not have any objection to the proposed expansion.**

**Response: Noted**

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as Appendix E to this report):

Comments raised by stakeholders have been noted and have been included above and in the Comments and Responses Report (See Appendix E for further detail).

## 2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

### 2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

#### a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

##### Alternative S1 (preferred alternative)

###### Direct impacts:

- Creation of skilled jobs for professional planners and designers.
- Recognition of concerns by IAPs.
- Disturbance of fauna may be created through activity on-site.
- Identify sensitive habitats / areas of concern and appoint independent and suitability qualified specialists to conduct assessments of these habitats / areas (as was undertaken as part of the WULA, and which informs this application). Specialist Studies conducted for sensitive habitats / areas of concern identified on site include:
  - Wetland Assessment: Terratest (Pty) Ltd.
  - Stormwater Management Plan: Terratest (Pty) Ltd.
  - Hydrogeological Assessment: Engeolab CC.
 Please see Appendix D for all Specialists Studies listed above.

###### Indirect impacts:

- Inappropriate siting of poultry houses could have a negative visual impact for surrounding neighbours and road users if the screening trees are cut down. This could also impact on the price of neighbouring properties.
- Potential for the facility to impact on the availability of local water and electricity supplies if not fully investigated by relevant suppliers.

###### Cumulative impacts:

- None

##### Alternative S2 (if any)

###### Direct impacts:

###### Indirect impacts:

###### Cumulative impacts:

##### No-go alternative (compulsory)

###### Direct impacts:

- No jobs will be created for professional planners and designers.
- No planned construction, therefore no direct impacts.

###### Indirect impacts:

- No visual impacts will occur and there will be no alteration to property prices in the area.
- No alteration in demand on service provision in the area.

###### Cumulative impacts:

- None

## Basic Assessment Report

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2
<ul style="list-style-type: none"> <li>• It must be ensured that properly qualified and experienced designers are employed to do the necessary work.</li> <li>• All of the relevant specialist studies are to be undertaken to ensure that the correct information informs the process.</li> <li>• Cognisance must be taken of local topography, and where visual impacts cannot be avoided, they should be mitigated through appropriate materials selection and vegetative screening.</li> <li>• Where possible and economically feasible, energy and water-efficient technology must be utilised in order to minimise pressure on service providers.</li> </ul>	

### b. Process, technology, layout or other alternatives

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

#### Alternative A1 (preferred alternative)

##### *Direct impacts:*

- Too few poultry houses could result in the farmer being unable to meet the needs of those he supplies, as well as the facility not being economically viable.
- The houses are designed to incorporate the latest technology in terms of energy efficiency, including negative pressure ventilation systems, production control, etc. These efficiencies are beneficial to both running costs and the environment as a whole. If the houses are not built with the latest technologies, this will result in increased running costs for the Farmer and greater resource demand to operate (electricity).
- If not properly designed, the chicken houses could collapse, result in energy inefficiencies and wastage;
- If construction activities are not properly planned for, pollution of adjacent watercourses could occur;
- If not properly designed, with adequate construction planning taken into account, the chicken houses could negatively impact on the adjacent riparian habitat;
- Disturbance of flora may be created through human activity on-site; and
- Disturbance of fauna may be created through human activity on-site.

##### *Indirect impacts:*

- The Planning and Design Phase will create employment for skilled personnel (e.g. specialists).

##### *Cumulative impacts:*

- None.

#### Alternative A2 (if any)

**No alternate processes or technologies were considered.**

##### *Direct impacts:*

##### *Indirect impacts:*

##### *Cumulative impacts:*

#### No-go alternative (compulsory)

- The farmer will not expand his enterprise, meaning he cannot meet the needs of those he supplies and cannot expand his enterprise.

##### *Indirect impacts:*

- No cumulative impacts – no construction therefore no planning inputs required.

##### *Cumulative impacts:*

- No cumulative impacts – no construction therefore no planning inputs required.

## Basic Assessment Report

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:	Alternative A2:
<ul style="list-style-type: none"> <li>• The farmer must undertake an expansion in order to meet the needs of those he supplies and to remain economically viable.</li> <li>• Energy and water-efficient technology must be used as far as is practically and economically feasible.</li> <li>• Identify sensitive fauna and flora prior to conducting assessments.</li> <li>• Measures must be taken to ensure minimal disturbance whilst undertaking site assessments during the Planning Phase to avoid disturbance to potentially sensitive environments.</li> <li>• Inform the surrounding communities and general public of the proposed activity as soon as possible.</li> <li>•</li> </ul>	<p>No alternate processes or technologies were considered.</p>

### 2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

#### a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 (preferred site)
<p><i>Direct impacts:</i></p> <ul style="list-style-type: none"> <li>• Soil disturbance and potential loss of topsoil as a result of platform cutting.</li> <li>• Job creation for professionals (engineers) skilled, semi-skilled and unskilled construction workers.</li> <li>• Noise and dust will be created during construction from machinery, earth movement and vehicles.</li> <li>• The access road to the farm will have increased traffic during the construction phase.</li> <li>• There is potential for the site and surrounding areas to become polluted if construction activities are not properly managed (e.g. oil and cement spills, litter from personnel on-site, sewage from ablutions etc.).</li> <li>• The additional hardened surfaces created during construction will increase the amount of stormwater runoff, which has the potential to cause erosion on and of site.</li> <li>• Physical disturbance of the soil and plant removal may result in soil erosion;</li> <li>• Erosion and potential soil loss from cut and fill activities.</li> <li>• Disturbance of the site may lead to encroachment of alien plant species on-site and to the surrounding areas;</li> <li>• Waste generation could be created by the following:             <ul style="list-style-type: none"> <li>- Solid waste - plastics, metal, wood, concrete, stone;</li> <li>- Chemical waste - petrochemicals, resins and paints; and</li> <li>- Sewage as may be generated by construction workers.</li> </ul> </li> <li>• Soil contamination from hydrocarbon spills, as a result of heavy construction machinery active on site.</li> <li>• Slow-moving construction vehicles on the surrounding roads may cause congestion and / or accidents.</li> <li>• Construction personnel / construction vehicles – movement of construction personnel and vehicles may pose a potential health and safety risk to road users and local residents.</li> </ul>

- There is potential for construction labour to trespass onto neighbouring properties.
- Disruption to residents through increased activity and noise in the area; and
- Increased temporary employment and skills development for local community members.

*Indirect impacts:*

- Increased opportunity for the establishment of alien vegetation on site and in the surrounding area due to earth works and movement of people and construction vehicles.
- Potential for construction workers to trespass onto neighbouring properties.
- Increase in revenue for local construction material suppliers.
- Provision of temporary job opportunities during construction;
- Revenue for local businesses supplying the contractors (i.e. construction materials, machine hire etc.);
- Alien plant infestation – seed dispersal via building material and equipment imports, vehicles and personnel.
- Soil disturbance and plant removal – increased competition from alien plant species.
- Noise impacts generated from construction activity i.e. vehicles, equipment and personnel.
- Faunal disturbance may occur potentially from the additional noise from increased vehicular movement at the construction site; and
- Increase in road strikes of birds and wildlife, especially slow-moving organisms such as frogs.

*Cumulative impacts:*

- Skills development for construction workers.
- Environmental degradation.

Alternative S2 (if any)

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

No-go alternative (compulsory)

*Direct impacts:*

- No costs associated with construction, service expansion or security.
- No risk of contamination of water resources.
- No disturbance or potential loss of topsoil.
- No creation of unskilled, semi-skilled or skilled jobs.
- No generation of noise and dust.
- No increase in traffic on the access roads.

*Indirect impacts:*

- No increase in the potential establishment of alien vegetation.
- No risk of trespassing from construction labour.
- No increase in revenue for local construction material suppliers.

*Cumulative impacts:*

- No skills development for construction workers.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

- As far as possible, topsoil must be separated from lower soil layers and saved for use during post construction rehabilitation.
- Local people must be afforded to opportunity to apply for construction jobs as much as possible.

Alternative S2

- Stipulations contained within the EMPr relating to dust suppression and noise control must be implemented for the duration of the construction phase.
- Construction workers must be warned not to trespass onto neighbouring properties.
- As far as possible, local building material suppliers must be utilised.
- Where necessary, warning signage is to be erected on the access road to/from the site, to warn the surrounding community of the increased numbers of construction related vehicles on the access road. Site personnel (i.e. construction staff) must undergo Environmental Training and be educated on keeping any vegetation disturbance to a minimum and on the separation and correct disposal of different types of waste;
- All waste generated on-site during construction must be adequately managed. Separation and recycling of different waste materials is supported;
- All solid wastes should be disposed of at a registered landfill site and records maintained to confirm safe disposal;
- Adequate scavenger-proof refuse disposal containers should be supplied to control solid waste on-site;
- The construction site should be inspected for litter on a daily basis. Extra care should be taken on windy days.
- Methods for reducing and managing waste e.g. recycling, reuse of materials, should be considered;
- Soil that is contaminated with, e.g. cement, petrochemicals or paint, should be disposed of at a registered waste disposal site
- Drip trays and spill kits are to be made readily available for use should any construction machinery develop a leak;
- Chemical waste should be stored in appropriate containers and disposed of at a licensed disposal facility;
- Any leftover material must be appropriately disposed of (i.e. at a permitted landfill site, recycled or used by a local community);
- No-go areas must be demarcated and must be afforded a buffer to prevent disturbance where applicable;
- An appropriate number of toilets (1 toilet for every 20 workers) must be provided for labourers during the Construction Phase. These must be maintained in a satisfactory condition and a minimum of 100m away from any water resources;
- Appropriate stormwater / surface water management measures must be put in place before construction commences and maintained throughout the lifetime of the development;
- It must be ensured that all hazardous contaminants are stored in designated areas that are sign-posted, lined with an appropriate barrier and bunded to 110% of the volumes of liquid being stored to prevent the bio-physical contamination of the environment (ground and surface water and soil contamination);
- Any contaminated water associated with construction activities must be contained in separate areas or receptacles such as Jo-jo tanks or water-proof drums, and must not be allowed to enter into the natural drainage systems;
- Any spills on-site must be reported to the relevant Authority (e.g. Department of Water and Sanitation) and must be remediated as per the EMPr (Appendix F);
- The area surrounding the chicken houses must be regularly checked for signs of erosion. If erosion is evident, corrective action must be taken;



<ul style="list-style-type: none"><li>• Personnel must not be allowed to trespass onto neighbouring properties and poaching or harvesting of indigenous flora / fauna is strictly forbidden;</li><li>• Alien plant encroachment must be monitored and prevented as outlined in the EMPr (Appendix F);</li><li>• Any exposed earth should be rehabilitated promptly with suitable vegetation to protect the soil. Vigorous grasses planted with fertiliser are very effective at covering exposed soil. It is important to note, that the any use of fertilisers, must be undertaken with caution and must not be allowed, in any circumstances, to run into drainage lines,</li><li>• Necessary rehabilitation measures, if required, (e.g. burning, seeding, removing alien plants etc.) should be introduced to ensure species composition reverts to a more natural state (with regards to affected areas). Indigenous vegetation with deep set root systems is advisable to limit soil loss on site. Alternatively, water dissipating mechanisms such as gabions or reno-mattresses may be implemented on-site to help stabilize the surrounding soil and provide a platform for the growth of vegetation;</li><li>• All construction machinery and equipment must be regularly serviced and maintained to keep noise, dust and possible leaks to a minimum, as per the requirements of the EMPr (Appendix F);</li><li>• Appropriate temporary traffic control and warning signage must be erected and implemented on all affected roads in the vicinity;</li><li>• Construction workers / construction vehicles must take heed of normal road safety regulations, thus all personnel must obey and respect the law of the road. A courteous and respectful driving manner should be enforced and maintained so as not to cause harm to any individual.</li><li>• A monitoring programme must be implemented to enforce the continual eradication of alien and invasive species during the Construction Phase.</li><li>• The Construction Camp must be contained so as to prevent any visual intrusion and be kept in a clean and orderly state at all times.</li><li>• Hours of work should be limited to between 7am and 5pm on weekdays and Saturdays;</li><li>• No work is to be permitted on Sundays or Public Holidays;</li><li>• Construction personnel must be made aware of the need to prevent unnecessary noise such as hooting and shouting;</li><li>• No hunting is permitted on-site or the surrounding areas;</li><li>• No animals required for hunting e.g. dogs, under the supervision of construction workers, should be allowed into the area. All construction personnel on the property must be informed of this ruling;</li><li>• Any construction personnel found to be poaching in the area should be subjected to a disciplinary hearing;</li><li>• All registered IAPs should be contacted to inform them of the starting date of construction and the proposed duration; and</li><li>• All IAPs should be provided with contact details should they wish to contact the Applicant / Contractor during the Construction Phase.</li></ul>	
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**b. Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

## Basic Assessment Report

### Alternative A1 (preferred alternative)

**Direct impacts:**

- Soil disturbance and potential loss of topsoil as a result of platform cutting.
- Job creation for professionals (engineers) skilled, semi-skilled and unskilled construction workers.
- Noise and dust will be created during construction from machinery, earth movement and vehicles.
- The access road to the farm will have increased traffic during the construction phase.

**Indirect impacts:**

- Increased opportunity for the establishment of alien vegetation on site and in the surrounding area due to earth works and movement of people and construction vehicles.
- Potential for construction workers to trespass onto neighbouring properties.
- Increase in revenue for local construction material suppliers.
- Increased temporary employment and skills development for local community members.

**Cumulative impacts:**

- It is estimated that construction will take a number of months to complete. Construction will incorporate both labour intensive methods and specialised machinery to ensure the buildings are of the highest standard. Thus construction will provide both employment and skills development.

### Alternative A2

**No alternate processes or technologies were considered.**

**Direct impacts:**

**Indirect impacts:**

**Cumulative impacts:**

### No-go alternative (compulsory)

**Direct impacts:**

- No disturbance or potential loss of topsoil.
- No creation of unskilled, semi-skilled or skilled jobs.
- No generation of noise and dust.

**Indirect impacts:**

- No increase in the potential establishment of alien vegetation.
- No risk of trespassing.
- No increase in revenue for local construction material suppliers.

**Cumulative impacts:**

- No skills development for construction workers.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1:**

**Alternative A2:**

<ul style="list-style-type: none"> <li>• As far as possible, topsoil must be separated from lower soil layers and saved for use during post construction rehabilitation.</li> <li>• Local people must be afforded to opportunity to apply for construction jobs as much as possible.</li> <li>• Stipulations contained within the EMPr relating to dust suppression and noise control must be implemented for the duration of the construction phase.</li> <li>• Construction workers must be warned not to trespass onto neighbouring properties.</li> </ul>	<p>No alternate processes or technologies were considered.</p>
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<ul style="list-style-type: none"> <li>• As far as possible, local building material suppliers must be utilised.</li> <li>• Where necessary, warning signage is to be erected on the access road to/from the site, to warn the surrounding community of the increased numbers of construction related vehicles on the access road.</li> <li>• Soil erosion and surface/stormwater management:             <ul style="list-style-type: none"> <li>➢ The site should be monitored by the Contractor weekly for any signs of off-site siltation. All areas impacted by earth-moving activities must be re-shaped post-construction to ensure natural flow of runoff and to prevent ponding;</li> <li>➢ All exposed earth must be rehabilitated promptly with suitable vegetation to stabilize the soil.</li> </ul> </li> <li>• A monitoring programme should be implemented to enforce the continual eradication of alien and invasive species during the Construction Phase.</li> </ul>	
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### 2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

#### a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

##### Alternative S1 (preferred alternative)

###### *Direct impacts:*

- Increased stormwater runoff from additional chicken houses.
- Increased volumes of chicken litter will be produced.
- Increased poultry production.
- Job creation and skills development.
- Nuisance odour may be created if the facility is not managed correctly.
- Chicken mortalities could cause disease and pollution if not properly dealt with.

###### *Indirect impacts:*

- Increased demand for chicken feed.
- Potential for visual impacts.
- Additional stormwater runoff has the potential to cause erosion, if not managed correctly.
- Chicken litter run-off may enter watercourses.
- No increase in the number on chicken mortalities and associated with this, no increase in the risk of disease.

###### *Cumulative impacts:*

- Increased standard of living for those employed and their dependents.
- The facility will help towards meeting the growing demand for poultry products in South Africa. This in turn may help keep the price of chicken down.
- More people will be able to afford chicken, and this in turn will contribute to a balanced diet. The greater the proportion of the population with a balanced diet, the less dependence on the currently limited health care resources.
- Increased availability of chicken litter as a crop nutrient source will improve crop yields and possibly crop health.
- Eutrophication of local water bodies if the litter is not covered during rainfall periods.

##### Alternative S2 (if any)

###### *Direct impacts:*

###### *Indirect impacts:*

**Cumulative impacts:**

**No-go alternative (compulsory)**

**Direct impacts:**

- No increased production to supply the growing poultry industry, as requested by the Applicant's client.
- No risk of contamination of local surface water resources.
- No alteration to current stormwater flow patterns.
- No increase in the volume of chicken litter produced on the site.
- No increase in output of the poultry operation.
- No job creation or skills development.
- No odour generation.
- No increase in the number on chicken mortalities and associated with this, no increase in the risk of disease.

**Indirect impacts:**

- No increase in demand for chicken feed.
- No alteration to the local visual landscape.
- No risk of erosion as a result of increased stormwater volumes.

**Cumulative impacts:**

- No alteration to the standard of living for people who could potentially be employed at the expanded facility.
- No contribution to meeting the poultry demands of the country.
- No risk of eutrophication through improper covering of litter during times of temporary storage.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1	Alternative S2
<ul style="list-style-type: none"> <li>• A Stormwater Management Plan must be included into the design of the facility to manage stormwater generated on roofs and hardened surfaces in order to minimise erosion risks.</li> <li>• It must be ensured that there is a market available for the increased volumes of litter that will be generated by the expanded facility.</li> <li>• Jobs should be offered to people from the local community first, as far as possible.</li> <li>• It must be ensured that the operational facility is managed correctly to minimise odour and associated pest nuisances.</li> <li>• Mortalities must be efficiently and effectively disposed of.</li> <li>• Where visual impacts cannot be avoided, they should be mitigated through appropriate materials selection and vegetative screening.</li> <li>• Farmers utilising litter on their crops should be advised to utilise it on a rotational basis to minimise "over-fertilisation" and the resultant eutrophication of watercourses.</li> </ul>	

**b. Process, technology, layout or other alternatives**

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

**Alternative A1 (preferred alternative)**

**Direct impacts:**

- Optimal health of poultry as a direct result of the implementation of the SKOV system.
- Efficient feeding and hydration of poultry as a direct result of the implementation of the SKOV system.
- Increased stormwater runoff.
- Increased volumes chicken litter produced.

- Increased poultry production.
- Job creation and skills development.
- Nuisance odour may be created if the facility is not managed correctly.
- Chicken mortalities could cause disease and pollution if not properly dealt with.

**Indirect impacts:**

- Increased demand for chicken feed.
- Potential for visual impacts.
- Potential increased income generation for the Farmer through the sale of litter to other farmers in the area.
- Additional stormwater runoff has the potential to cause erosion.

**Cumulative impacts:**

- Increased standard of living for those employed and their dependents.
- The facility will help towards meeting the growing demand for poultry products in this country. This in turn will help keep the price of chicken (and thus protein) down.
- Man increase in the amount of poultry produced in South Africa, for the South African market, results in less poultry having to be imported. This reduces the costs of poultry, as well as making it more affordable to a greater portion of the population. This may in turn result in a greater proportion of the population having access to a balanced diet, and therefore being less dependent on the currently limited health care resources.
- Increased availability of chicken litter will improve crop yields and in turn will produce improved crops.
- Eutrophication of local water bodies if the litter is applied incorrectly.

**Alternative A2**

**No alternate processes or technologies were considered.**

**Direct impacts:**

**Indirect impacts:**

**Cumulative impacts:**

**No-go alternative (compulsory)**

**Direct impacts:**

- No alteration to current stormwater flow patterns.
- No increase in the volume of chicken litter produced on the site as has been requested by the Applicant's client.
- No increase in output of the poultry operation.
- No job creation or skills development.
- No odour generation.
- No increase in the number on chicken mortalities and associated with this, no increase in the risk of disease.

**Indirect impacts:**

- No increase in demand for chicken feed.
- No alteration to the local visual landscape.
- The potential for additional income generation through the sale of litter to local farmers will be lost.
- No risk of erosion as a result of increased stormwater volumes.

**Cumulative impacts:**

- No alteration to the standard of living for people who could potentially be employed at the expanded facility.
- No contribution to meeting the poultry demands of the country.
- No risk of eutrophication through improper litter application regimes.

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1**

**Alternative A2**

<ul style="list-style-type: none"> <li>• A Stormwater Management Plan must be included into the design of the facility to manage stormwater generated on roofs and hardened surfaces in order to minimise erosion risks.</li> <li>• It must be ensured that there is a market available to accept the increased poultry that will be produced by the expanded facility, to ensure its economic viability in the long term.</li> <li>• Jobs should be offered to people from the local community first, as far as possible.</li> <li>• It must be ensured that the operational facility is managed correctly to minimise odour and associated pest nuisances.</li> <li>• Mortalities must be efficiently and effectively disposed of.</li> <li>• Where visual impacts cannot be avoided, they should be mitigated through appropriate materials selection and vegetative screening.</li> <li>• Farmers utilising litter on their crops should be advised to utilise it on a rotational basis to minimise “over-fertilisation” and the resultant eutrophication of watercourses.</li> </ul>	<p>No alternate processes or technologies were considered.</p>
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**2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE**

The development is intended as a permanent installation. The decommissioning of the facility has therefore not been investigated.

**a. Site alternatives**

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

**Alternative S1 (preferred alternative)**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

**Alternative S2**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

**No-go alternative (compulsory)**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative S1**

**Alternative S2**

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## Basic Assessment Report

### b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

**Alternative A1 (preferred alternative)**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

**Alternative A2**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

**No-go alternative (compulsory)**

*Direct impacts:*

*Indirect impacts:*

*Cumulative impacts:*

Indicate mitigation measures to manage the potential impacts listed above:

**Alternative A1**

**Alternative A2**

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### 2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

**Alternative S1 (preferred site)**

**Alternative S2**

**It is recommended that the Environmental Management Programme (EMPr) (Appendix F) be implemented for all phases of the development. This EMPr must be used to monitor the site on commencement of construction, midway through the construction process, and on completion of the rehabilitation phase of the project. Auditing must be conducted by an independent Environmental Control Officer in order to ensure compliance with all aspects of environmental management and responsibility.**

**No alternate sites were considered.**

**Alternative A1 (preferred alternative)**

**Alternative A2**

**It is recommended that the Environmental Management Programme (EMPr) (Appendix F) be implemented for all phases of the development. This EMPr must be used to monitor the site on commencement of construction, midway through the construction process, and on completion of the rehabilitation phase of the project. Auditing must be conducted by an independent Environmental Control Officer in**

**No alternate processes or technologies were considered.**

order to ensure compliance with all aspects of environmental management and responsibility.	
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### 3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

#### Alternative S1 (preferred site)

In the recent past there has been an increase in demand for hatching eggs in the market place. In addition, the request for expansion has been requested by the Applicant's client, (see correspondence in Appendix G). In order to meet this demand and remain competitive, it is necessary for farmers like Ndiza Poultry Breeders to upgrade and expand their facilities. The proposed development is therefore based on a proven market need.

The proposed expansion also provides the farmer with the opportunity to upgrade his technology, allowing for the introduction of water- and energy-efficient technology (the SKOV system) and its associated positive implications for cost-saving and energy efficiency.

The preferred development sites are located at a distance from watercourses, outside floodlines, and in areas that have previously been utilised for agricultural activities. The preferred sites therefore are not deemed to be sensitive in nature and their loss to development would not have a significant impact on local conservation efforts.

Services required for the proposed development, such as water and electricity, are readily available. Existing access to the sites are available. The soils on the site appear to be suitable for the subsurface disposal of effluent as the water tests conducted have always come back with a non-harmful result. Existing and effective disposal streams for mortalities and chicken litter are already in place and can continue to be used for the expanded facility. It has been confirmed that additional mortality's can be tolerated.

In conjunction with the Water Use Licence Application, a site specific Storm Water Management Plan (SWMP) has been developed. This plan addresses and recommends mitigation measures associated with the temporary storage of chicken litter on site (following the cleaning of the chicken houses after chicken growth cycles), as well as ways to mitigate the stormwater runoff from increased hardened surfaces associated with the construction of the rearing and laying houses.

The EAP is of the opinion therefore that there are no fatal flaws and that the proposed development should be allowed to proceed.

#### Alternative S2

#### Alternative A1 (preferred alternative)

The preferred alternative is for the upgrading of the existing poultry facilities on the property. As stated previously, in the recent past there has been an increase in demand for hatching eggs in the market place. In addition, the request for expansion has been requested by the Applicant's client, (see correspondence in Appendix G). In



order to meet this demand and remain competitive it is necessary for farmers like Ndiza Poultry Breeders to upgrade and expand their facilities. The proposed development is therefore based on a proven market need.

The proposed development should be authorised as it is necessary for the farmer to remain economically competitive in the marketplace. In addition, no significant or long term environmental impacts have been noted, and mitigation measures have been provided for those impacts which have been noted.

Alternative A2

No alternate development types were considered.

No-go alternative (compulsory)

If the no go option were followed, the farmer would be unable to meet the increased demand for hatching eggs and would be unable to remain competitive in the market place.

## SECTION F. RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report?	YES	
If "NO", please contact the KZN Department of Economic Development, Tourism & Environmental Affairs regarding the further requirements for your report.		

If "YES", please attach the draft EMPr as Appendix F to this report and list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

- The EMPr compiled as part of the Basic Assessment Process must be implemented during the construction phase. An ECO must be appointed to undertake audits of the site.
- It is recommended that stormwater management measures be incorporated into the design of the new facility to ensure that no erosion occurs as a result of the increase in hardened surfaces associated with the development.
- Wastes generated on the site during both the construction and operational phases should be separated to facilitate recycling. This could be aided by the provision of labelled bins for each of the different recyclable waste types. Recyclables could be dropped at the depot in Howick. Scrap metals should be directed to a scrap metal dealer.
- Input is awaited from a Geohydrologist regarding the final siting of the septic tanks and soakaways as the siting should take into consideration surface stormwater flows, subsoil seepage and local groundwater conditions.

## SECTION G: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information