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Basic Assessment Process

THE PROPOSED CONSTRUCTION OF CHICKEN BROILER HOUSES FOR THE PRODUCTION OF POULTRY ON PORTION 78 OF THE FARM MEZEG 77, RAMOTSHERE MOILOA LOCAL MUNICIPALITY, NORTH-WEST

DRAFT BASIC ASSESSMENT REPORT

August 2019

Eko Report Number: eko19/08-01-86

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Report Details

Title:	**Basic Assessment for the proposed construction of chicken broiler houses on portion 78 of the Farm Mezeg 77, Ramotshere Moiloa Local Municipality North West.**
Purpose of this report:	The purpose of this Basic Assessment Report is to: 1. Present the proposed project and the need for the project; 2. Describe the affected environment at a sufficient level of detail to facilitate informed decision-making; 3. Provide an overview of the Basic Assessment Process being followed, including public consultation; 4. Assess the predicted positive and negative impacts of the project on the environment; 5. Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project; 6. Provide an Environmental Management Programme (EMPr) for the proposed project. This Basic Assessment Report (**BAR**) is being made available to all Interested and Affected Parties (I&APs) and stakeholders for a 30-day review period. All comments submitted during the review of the BAR will be incorporated into the finalised BAR as applicable and where necessary. This finalised BAR \will then be submitted to the North West Department of Rural, Environment and Agricultural Development (READ) for decision-making.
Prepared for:	Duncan van Greunen
Prepared by:	Eko Environmental
Date:	August 2019

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Section A: Activity Information

1. PROJECT DESCRIPTION

a) Describe the project in association with the listed activities applied for

Background and Introduction

Construction Phase:

- Transformation of cultivated/grazing land to agri-industrial use with a footprint of approximately 5 hectares;
- Construction of 8 new chicken broiler houses for the concentration of chickens exceeding 5 000 chickens per facility for the production of poultry;
- Establishment of storm water management measures; and
- Establishment and installation of all associated services (e.g. electricity and water supply).

Operational Phase:

- Total water consumption of 800 000 l/year/house (48 000 chickens). The water will be supplied by an existing borehole on site that is registered and has sufficient capacity for this project.
- Disposal of general waste (e.g. paper, plastic, glass bottles, etc.) at the authorised landfill site in the region (i.e. Zeerust) on a regular basis; should it be required
- Storm water management such as diversion of clean storm water around the site to enter the natural drainage patterns;
- Upgrading of the existing access roads when necessary;

Decommissioning Phase:

No Decommissioning Phase is foreseen for the proposed project. However, should the chicken houses be decommissioned in future and dependant on the end land use at the time, this phase will entail the demolishing of infrastructure and rehabilitation of the site.

Rehabilitation:

A rehabilitation plan will be developed should the houses be decommissioned and rehabilitation be implemented.

The proposed project entails the construction of chicken broiler houses for the production of poultry on portion 78 the Farm Mezeg 77. The applicant is looking to construct 8 chicken broiler houses each with a maximum capacity of 48 000 chickens. The construction of the chicken broiler houses will require the clearance of approximately 6 hectares of agricultural land that was historically used for cultivation and grazing.

The proposed site is located on Portion 78 of the Farm Mezeg 77 that is located approximately 25km north-east of the town of Zeerust in the North-West Province. The site can be accessed by a tar road by turning left off the N4 after leaving the town of Zeerust in an easterly direction and driving for approximately 7km (please refer to locality maps below). One then proceeds to drive along the tar road for approximately 24km before reaching the proposed site location (please refer to locality maps below)

Electricity

Electricity will be extended to the proposed site from the existing electrical infrastructure on the farm. The farm already has access to electricity.

Water
The applicant will make use of the borehole on the farm to supply the chickens with the necessary water supply. The borehole is registered and has sufficient capacity for this activity.

Storm water management
Storm water will be diverted around the site area to enter the natural drainage patterns.

Waste management
- General waste (i.e. paper, plastic, glass bottles, etc.) will be collected and disposed of at an authorised landfill site Zeerust on a regular basis should it be required.
- Any carcasses will be assembled for transport to be used for crocodile feed by a local crocodile farmer. No waste will be incinerated or permamnently dumped on the site.
- The applicant will obtain a letter of agreement between himself and a nearby crocodile farmer concerning the removal of the carcasses.

Public consultation:
To inform the general public of the proposed project it will be advertised in 2 local newspapers and a site notice will be placed on site.

Neighbours, relevant regulatory departments and potential I&AP's will be notified of the proposed project in writing.

The public will be granted a 30 day period to register as Interested and Affected Party or to raise comment where after they will receive all relevant documentation and reports regarding the project.

Project description and layout

Need and desirability
The proposed project is the construction of chicken broiler houses in the Ramotshere Moiloa Local Municipality for the production of poultry. There is a need for an increase in supply of chickens in the area with local abattoirs only operating at approximately 50% capacity in terms of load.

The proposed project will provide several local residents with work in the daily operations of the broiler houses. Unemployment is high in the municipality and the project will provide a form of employment and a boost to the local economy.

Description of Baseline Environment

Current land use
The current land use for the proposed site is agricultural and was used historically for crop cultivation. This makes the proposed project ideal for this location as it is not a location that is pristine and has already been transformed. Please refer to the historical imagery confirming this in the phase 1 Archaeological Impact Assessment in appendix B as well as the photographical report in appendix C.

Climate
The regional climate features summer rainfall with very dry winters. Mean annual precipitation is about 550– 650mm. Frost is fairly frequent in winter in lower-lying areas, but less so on the hills. Mean monthly maximum and minimum temperatures for Lindleyspoort-Irr weather station are 35.2°C and –0.4°C for January and June, respectively. Corresponding values for the Marico-Irr weather station are 36.7°C and -0.4°C (Mucina & Rutherford 2006).

Land types

Most of the development site falls on land type Ae33. The northern most part of the site enters landtype Ae33, and the southern section of the farm is situated in land type Fa9. Land type Ib40 includes shales, quartzites and andesites of the Pretoria Group (which is part of the Transvaal Supergroup, Figure 4), and has stony, shallow soils of the Glerosa and Mispah soil forms, with some deep, freely drained soils. Land type Ae33 includes sediments of the Pretoria Group, in particular the Silverton and Rayton Formations; they are mostly shale with less quartzite and conglomerate. Land type Fa9, in contrast, features dolomite and chert of the Malmani Subgroup (Transvaal Supergroup), and supports mainly shallow Mispah and Glenrosa soil forms

Vegetation

The proposed development falls within the Zeerust Thornveld vegetation type (Mucina & Rutherford, 2006). The Zeerust Thornveld represents deciduous, open to dense, short, thorny woodland dominated by Acacia species with a herbaceous layer of mainly grasses. It is found on deep, high-base status and some clay soils on plains and lowlands, and also between rocky ridges of Dwarsberg-Swartruggens Mountain Bushveld. Zeerust Thornveld is also Least Threatened, but less than 4% is statutorily conserved. About 16% of the vegetation type has been transformed, mainly by cultivation, but also urban development. Alien flora (e.g. Cereus jamacaru) occur in a few very scattered areas. Erosion is also very low to low (Mucina & Rutherford 2006)

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R.983, 984 and 985	Description of project activity
GN. 327 of the 2014 EIA regulations as amended in 2017 – **Activity 5. Activity 5 (ii) -** The development and related operation of facilities or infrastructure for the concentration of – ***More than 5000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days;***	Construction of 8 broiler houses that will accommodate 48 000 chickens per facility outside an urban area.
GN. 327 of the 2014 EIA regulations as amended in 2017 – **Activity 28**. Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or before 01 April 1998 and where such development:	Historical and current agricultural land that is intended to be used for the construction and operation of chicken broiler houses.

c) Property description / physical address

Province	North West
District Municipality	Ngaka Modiri Molema District Municipality
Local Municipality	Ramotshere Moiloa Local Municipality
Ward Number	Ward 17
Farm name and number	Farm Mezeg 77
Portion number	Portion 78
21 digit surveyor General Code	T0JP00000000007700078

2. 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

a) Site alternatives

No site alternatives apart from the proposed site, portion 78 of farm Mezeg 77, were considered due to the following reasons:

1. The site is located on land that is already transformed
2. The site already has access to existing water (borehole)
3. The applicant is in the process of purchasing the said land
4. The surrounding area is host to similar projects (other chicken broiler houses)

b) Lay-out alternatives

The layout of the proposed project has been carefully informed by the findings of the Ecological Impact Assessment and the Heritage Impact Assessment (Appendix B) so as to avoid sensitive areas. Furthermore the development is within an area that has already been transformed previously to limit the disturbance of natural habitats.

The area on the farm that was chosen for the proposed development is situated close to existing electrical and water facilities on the farm which will reduce costs. The proposed layout is situated on a flat area will little variation in topography which reduces the risk of runoff and subsequent contamination. This also makes the management and handling of storm water easier.

c) Technology alternatives

The preferred technology alternatives include the use of municipal electricity and the use of groundwater. Both of these are already available at the proposed site.

The alternative to the preferred technological alternatives is to construct specific services infrastructure on the site for the following:

1. Electricity: the implementation of solar/renewable energy sources will be assessed in this report.
2. Water supply: an alternative to using groundwater such as the use of municipal water will be assessed in this report.

d) Other alternatives

No other alternatives have been considered for tis proposed project.

e) No-go alternative

If the no-go alternative is decided on no construction will occur on the property and no environmental impacts will occur. However, if the no-go alternative is decided on the opportunity will be lost to create temporary jobs and a positive impact on the socio-economic during the construction phase as the proposed project will provide people with direct jobs and also indirect jobs and economic gain through providing the applicant with building material and services.

f) Motivation for the proposed site alternative as well as exclusion of alternatives:

1. The site is located on land that is already transformed
2. The site already has access to existing water (borehole)
3. The applicant is in the process of purchasing the said land
4. The surrounding area is host to similar projects (other chicken broiler house

3. PHYSICAL SIZE OF THE ACTIVITY

The physical size of the proposed activity, the construction of 8 chicken broiler houses and associated infrastructure, is expected to be approximately 4 hectares in total (please see locality map in Appendix A).

4. SITE ACCESS

The site is accessible from an unnamed tar road that borders portion 78 of Farm Mezeg 77. The road is in fairly good condition. Access to the tar road is possible by turning left off the N4 travelling out of Zeerust for approximately 7km and then proceeding along the tar road for a further 24km before the proposed sit is on the right. Therefore, no additional road infrastructure is required.

5. LOCALITY MAP (APPENDIX A)

See locality map in appendix A.

6. LAYOUT/ ROUTE PLAN (APPENDIX B)

See the layout plan in appendix B

7. SENSITIVITY MAP (APPENDIX B SEE SPEICLIST REPORTS)

See the sensitivity maps as was compiled by the ecological specialist in the ecological report in appendix B.

8. SITE PHOTOGRAPHS (APPENDIX C)

See the site photographs in appendix C

9. FACILITY ILLUSTRATION (APPENDIX D)

See the facility illustrations in appendix D

10. ACTIVITY MOTIVATION

1. Is the activity permitted in terms of the property's existing land use rights?	**YES**	**NO**	**Please explain**
The proposed development site is not administered by any Town planning Scheme. From the municipality's record the property does not have any zoning in terms of the regulations. As such the development can be permitted.			

2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	**YES**	**NO**	**Please explain**
The North-West PSDF is based upon, and promotes, an integrated and holistic approach to spatial planning and land-use management which implies that the interrelationships between economic activities and other developmental dimensions (e.g. social, financial, demographic, institutional, and infrastructural aspects), and environmental constraints and opportunities are carefully considered in accordance with a standard framework and at all applicable spheres of planning, ranging from the international to the local level.			
(b) Urban edge / Edge of Built environment for the area	**YES**	**NO**	**Please explain**
The site is located outside the urban edge			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	**YES**	**NO**	**Please explain**
The activity will not compromise the integrity of the existing IDP and SDF of the Ramotshere Moiloa Local Municipality as it is privately operated and privately owned..			
(d) Approved Structure Plan of the Municipality	**YES**	**NO**	**Please explain**
N/A			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	**YES**	**NO**	**Please explain**
The project will not compromise the Environmental Management Framework of the Department as the land is currently being used for agricultural purposes, the same as the proposed project.			
(f) Any other Plans (e.g. Guide Plan)	**YES**	**NO**	**Please explain**
N/A			

3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	**YES**	**NO**	**Please explain**
The land was used for agricultural purposed historically and the proposed project is agricultural in nature.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	**YES**	**NO**	**Please explain**
The project is not a priority to the community but could provide additional chickens to the surrounding area. The proposed project will also create direct and indirect temporary jobs for local residents during the construction and operational phases of the project.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	**YES**	**NO**	**Please explain**
The proposed project is located outside the urban area and adequate services and capacity are available for the proposed project (municipal electrical supply and groundwater supply is available on the proposed site).			
6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	**YES**	**NO**	**Please explain**
The local municipality (Ramotshere Moiloa Local municipality) was identified as an interested and affected party for this project and all documentation from the start of the project has been sent to the municipality for review. The Municipality comments, should they comment, will be attached in the Final Basic Assessment Report in appendix I.			
7. Is this project part of a national programme to address an issue of national concern or importance?	**YES**	**NO**	**Please explain**
The project is not of national concern and involves the construction of 8 chicken broiler houses in the Ramotshere Moiloa Local Municipality in the North-West..			

8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	**YES**	**NO**	**Please explain**
The land use was agricultural (cultivation) as well as surrounding land is currently being used for agricultural purposes. Therefore the location of the proposed site does favour the proposed activity.			
9. Is the development the best practicable environmental option for this land/site?	**YES**	**NO**	**Please explain**
The proposed site is currently vacant with transformed vegetation present. The applicant wishes to construct 8 chicken broiler houses on the proposed site therefore make a greater socio-economic contribution to the surrounding area.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	**YES**	**NO**	**Please explain**
The site has a low ecological value, thus the impact on environment in the area will be limited. **The proposed project will benefit the community as it will create jobs during the construction and operational phases.** **In addition there will be an increase in the supply of chickens to the surrounding communities which may result in further employment opportunities.**			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	**YES**	**NO**	**Please explain**
The area is situated outside of the urban area. The surrounding areas are already being used for similar purposes.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	**YES**	**NO**	**Please explain**
The proposed site is currently empty. A Public Participation Process has begun (and will be continued) to ensure that all the surrounding landowners are informed of the project and do not have any concerns regarding the project.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	**YES**	**NO**	**Please explain**
The proposed activity is not located within the urban edge and therefore will not compromise the urban edge.			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	**YES**	**NO**	**Please explain**
N/A			

15. What will the benefits be to society in general and to the local communities?	**Please explain**
The proposed project will benefit the community as it will create jobs during the construction and operational phases. **In addition there will be an increase in the supply of chickens to the surrounding communities which may result in further employment opportunities.**	
16. Any other need and desirability considerations related to the proposed activity?	**Please explain**
None	
17. How does the project fit into the National Development Plan for 2030?	**Please explain**
N/A – The project has no significance on the National Development Plan for 2030.	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
An assessment has been undertaken to evaluate potential impacts and to propose possible mitigation measures to lower the impacts on the environment, social conditions and cultural heritage which may arise as a result of the development. A public participation was undertaken in terms of the 2014 EIA Regulations as amended in 2017. Consideration of environmental attributes in management and decision-making which may have a significant effect on the environment will be ensured; and The modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2 of the NEMA will be identified and employed.	

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.
The following principles have been taken into account: • Avoiding or minimizing the disturbance to ecosystems; • That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimized and remedied; • That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimized and remedied; • That waste is avoided, or where it cannot be altogether avoided, minimized and re-used or recycled where possible and otherwise disposed of in a responsible manner; • That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource; • That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardized; • That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; • That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimized and remedied. • Promotion of community participation through an extensive and open public participation process with I&APs; Delivery of high quality information to government and other decision-makers in order to enable them to make inform decisions.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act, 1998 (Act 107 of 1998)	The proposed development triggers listed activities within this act	National Government, and National Department of Environmental Affairs	1998
National Environmental Management Act EIA Regulations (7 April 2017)	A number of listed activities have been identified that have triggered the need for a Basic Assessment in terms of these regulations	National Government, and National Department of Environmental Affairs	2017
National Water Act, 1998 (Act 36 of 1998).	The proposed development uses groundwater	Department of Water Affairs	1998
The National Heritage Resources Act, 1999 (Act No 25 of 1999) as amended, particularly Chapter II, Section 38	the proposed development triggers activities within this act.	South African Heritage Resource Agency	1999

Conservation of Agricultural Resources Act 43 of 1983	The land is an agricultural plot which is currently used for agricultural purposes.	Department of Agriculture, Forestry and Fisheries	983
Occupational Health and Safety Act 85 of 1993	Comply to OHSA during construction phase	Department of Labor	1993

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

No solid construction waste such as construction rubble will be generated during the Construction Phase of the project as there is no existing infrastructure that will be demolished. However, if any construction waste is generated, the waste will be collected and transported to an authorised landfill site in Zerust or it will be used as filling material.

There will be a consistent amount of waste (in the form of manure) during the operational phase. The manure is to be stored a designated and bunded location on site before being sold to surrounding farmers that make use of the manure as fertiliser and feed. Each chicken layer house of 48 000 chickens will produce approximately 10m^3 of chicken manure/week or approximately 320m^3 for all eight chicken houses on a monthly basis.

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

a) Mortalities

- Mortalities left in the chicken facilities will pose a bio-security risk and need to be removed from the facilities. Normal daily mortalities will be collected on a regular basis and given to a crocodile farmer in the nearby vicinity (Applicant has a written agreement see appendix L).
- Mass mortalities due to disease outbreaks are usually state controlled diseases (such as Newcastle (NCDV) or Avian Influenza (HPAI)). Mass mortalities will be investigated promptly and a regional state veterinarian will be informed immediately. The farm will be placed under quarantine if a state controlled disease is diagnosed. The carcasses will be removed under a permit to a location indicated by the state veterinarian.

b) General waste:

- Chicken manure will be collected and used as fertilizer on the farm or surrounding farms.
- Should it be decided upon not to utilize the manure on the fields of the applicant, the applicant will sell the manure as fertilizer.
- Any non-biodegradable waste will be collected and disposed of at the landfill site in Zeerust.

c) Generation of noise

Noise generated at the chicken broiler houses will be limited to construction noise during the construction phase of the project. During the operational phase, noise will be limited to that arising from the chickens and those associated with agricultural activities. The amount of noise generated by modern chicken broiler houses is minimal as they are contained.

13. WATER USE

The proposed project will make use of water from an existing borehole that is located on the site. The borehole is registered and has the capacity to provide the required water for the project. The water use documentation is attached in appendix L.

The total amount of water that is expected to be extracted for all 8 chicken broiler houses is approximately 800 000 L per month.

14. ENERGY EFFICIENCY

The chicken broiler houses make use of the latest technology with all systems relating to regulating and maintaining the broiler houses (temperature, humidity, water, feeding etc) being autonomously controlled by computers. The system is therefore optimised to what is most efficient depending on environmental factors and this increases the energy efficiency substantially.

A technology alternative is to make use of renewable energy sources for the generation of electricity. This will consist of solar panels. However, the development will require large amounts of panels to generate enough electricity for the proposed chicken broiler houses as they make use of relatively high amounts of electricity. This would then involve the construction of these solar panels on other open spaces which will result in the loss and/or degradation of further vegetation. In addition, the cost of implementing solar panels and the maintenance of such a large system will be very high. This will require the appointment of a specialist to constantly maintain the system which will incur further costs. Lastly the chicken broiler houses require strict temperature, moisture and air quality regulation which requires a constant energy-supply which solar panels often fail to do.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

1. GRADIENT OF THE SITE

The gradient of the site is flat with gradual dip (1:50 – 1:20) towards the north.

2. LOCATION IN LANDSCAPE

The proposed site is located within the flat centre plain of a shallow open valley.

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

The proposed site does not contain a shallow water table. It does not contain seasonably wet soils. It does not contain dispersive soils and does not contain any other unstable soil or geological feature.

4. GROUNDCOVER

The type of groundcover is cultivated land.

Please refer to the ecological assessment in Appendix B.

5. SURFACE WATER

There is a Non-perennial stream towards the north of the proposed site. A watercourse assessment was conducted by a specialist (please refer to specialist report in Appendix B) and it was concluded that the stream, an 'A' section channel requires a mandated 100 m regulated buffer zone.

'A' section channels are those that do not have baseflow and convey surface runoff immediately after a storm event and are not associated with a riparian zone. This channel was found to be in a moderately modified (Category C) state due to the landscape transformation within the non-marginal zone and the presence of alien invasive plants. The proposed site layout was therefore slightly shifted to accommodate the 100 m buffer zone.

6. LAND USE CHARACTER OF SURROUNDING AREA

The surrounding area is dominated by agricultural activities Within 500 meters of the proposed site there is also a stream, the designated 'A' channel as discussed above and a low ridge to the north approximately 500 north of the site (please refer to the ecological assessment in appendix B).

7. BIODIVERSITY

The Mezeg farm boundary falls within the Zeerust Thornveld vegetation type. No plant species of conservation concern were identified during the site visit within the proposed development area, but could be found beyond the reaches in the Mountain and Bushveld according to the expected species listed in Appendix B of the ecological assessment report in appendix B.

Almost the entire application area falls within an Ecological Support Area, with a small top portion within a Critical Biodiversity area. No protected areas nor any threatened ecosystems are present within the study area. No IBA's are found within or in close proximity to the study area.

8. CULTURAL/HISTORICAL FEATURES

No cultural or historical features of significance were identified for the proposed project. Please refer to the phase 1 archaeological impact assessment in appendix B. The recommendations made by the heritage specialist will be included in the EMPr.

9. SOCIO-ECONOMIC CHARACTER

a) Local municipality

Ramotshere Moiloa Local Municipality has 30.37% of unemployment, with 69.63% of the population employed in the formal and informal sectors. The percentage of economically active people in the municipality is 20.15%, with 79.85% of the population not being economically active. The main sectors of employment and economic activity are retail trade and services in the terrestrial sector. The rural areas are characterised mostly by small scale/subsistence agriculture, game farming, and a few active mines, while manufacturing and services sectors are located in towns.

The majority of Ramotshere Moiloa Local Municipality's population have some form of education, with only 15.5% of the population having no schooling, while 28.8% have matric and only 5/8% have a higher education in 2016.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R ± 10 Million	
What is the expected yearly income that will be generated by or as a result of the activity?	±R720 000 .	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	YES	NO

How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Outside contractors is unknown. Some local people will be employed during construction
What is the expected value of the employment opportunities during the development and construction phase?	Unknown: The outside contractor will be responsible to pay his workers.
What percentage of this will accrue to previously disadvantaged individuals?	90%
How many permanent new employment opportunities will be created during the operational phase of the activity?	± 8
What is the expected current value of the employment opportunities during the first 10 years?	± R7,2miliion
What percentage of this will accrue to previously disadvantaged individuals?	90%

10. SPECIALIST CONSULTATION

Specialists were consulted for the completion of an ecological, archaeological and watercourse assessment respectively. The specialist reports are found in appendix B.

SECTION C: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, 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. 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.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Construction Phase			
Clearance of vegetation and removal and stockpiling of topsoil	***Direct impacts:*** - Vegetation clearance and loss - Removal of topsoil and potential loss thereof - Possible change in the natural storm water drainage pattern - Noise elevation due to construction activities - Nuisance due to dust generation	Low - Negative	- Clearance of Vegetation will be limited to the site under construction. - The surface of the site will be levelled to ensure free-draining to prevent ponding of surface water. - Storm water measures such as channels, diversion berms, etc will be constructed around the site in order to limit and/or prevent erosion. - A speed limit will be enforced on construction vehicles. - Construction will be limited to daytime to limit any disturbance to neighbouring
	Indirect impacts: - Potential erosion of exposed soil - Possible dumping of construction rubble and general waste on site - Petrochemical spills may take place that may lead to contamination of surface and groundwater	Low - Negative	

Activity	Impact summary	Significance	Proposed mitigation
	- Deterioration of the access road as a result of an increase of construction vehicles to the site. - Loss of archaeological significant artefacts.		landowners. - Dust control measurements will be investigated if nuisance dust generation proofs to be problematic - SAHRA will be notified should traces of any paleontological heritage be found during construction. - All building rubble will be removed by the contractor on a regular basis and disposed of at an authorised landfill site in the area or used as filling material. - Receptacles should be placed on site for the collection of general waste. These receptacles should be emptied on a regular basis and waste be disposed of at the authorised landfill site in the area.
	Cumulative impacts: None	Low - Negative	It is imperative that topsoil be stockpiled correctly and protected and returned to the site after construction to be used in gardens.
Construction of infrastructure and buildings	***Direct impacts:*** - Possible change in the natural storm water drainage pattern - Noise elevation due to construction activities - Nuisance due to dust generation - Unearthing of significant heritage artefacts	Low - Negative	- The site will be levelled in such a manner to allow storm water to be diverted around the site and drain into the surrounding storm water channels. - Storm water measures such as channels, diversion berms, etc will be constructed on the site in order to limit and/or prevent erosion. - A speed limit will be enforced on construction vehicles. - Construction will be limited to daytime to limit any disturbance to neighbouring landowners. - Dust control measurements will be investigated if nuisance dust generation proofs to be problematic - SAHRA will be notified should traces of any paleontological heritage be found during construction. - All building rubble will be removed by the contractor on a regular basis and disposed

Activity	Impact summary	Significance	Proposed mitigation
			of at an authorised landfill site in the area or used as filling material. - Receptacles should be placed on site for the collection of general waste. These receptacles should be emptied on a regular basis and waste be disposed of at the authorised landfill site in the area.
Operational Phase	***Direct impacts:*** - Potential pollution to storm water if proper storm water management measures are not implemented. - Potential water pollution may occur if manure from the operation is not managed appropriately. - Mortalities left in the chicken facilities will pose a bio-security risk and need to be removed from the facilities. - Possible dumping of condemned carcasses on site may result in health risks and bad smelling odours. - Possible dumping of general waste on site. - Potential pollution to the surrounding environment due to raw sewage spills. - Pests (i.e. rats and flies) may become problematic at the chicken houses.	Low - Negative	- The storm water management measures that will be constructed and implemented during construction will be maintained and repaired when necessary. - The effluent (wash water) from the process will be insignificant as it is in very small quantities. - Mortalities left in the chicken facilities will pose a bio-security risk and need to be removed from the facilities. Normal daily mortalities will be collected on a regular basis and given to a lion farmer in the nearby vicinity. - Mass mortalities due to disease outbreaks are usually state controlled diseases (such as Newcastle (NCDV) or Avian Influenza (HPAI)). Mass mortalities will be investigated promptly and a regional state veterinarian will be informed immediately. The farm will be placed under quarantine if a state controlled disease is diagnosed. The carcasses will be removed under a permit to a location indicated by the state veterinarian. - The chicken manure will be recycled and used as fertilizer. - General waste (i.e. paper, plastic, glass bottles, etc.) will be collected in receptacles on site. These receptacles will be emptied and the waste disposed of at an authorised landfill site on at least a weekly basis (or when necessary). - The access road will have to
	Indirect impacts: - Possible generation of bad smelling odour if proper waste management is not implemented. - Deterioration of the access road as a result of increased traffic to the site.	Low - Negative	

Activity	Impact summary	Significance	Proposed mitigation
			be upgraded when necessary. - Toilets will be supplied to employees to be used.
	Cumulative impacts: None		
Decommissioning and Closure Phase	***Direct Impacts*** No Decommissioning Phase is foreseen for the proposed project.		- Should the houses be decommissioned in future, a Rehabilitation Plan dependant on the end land use will be developed and be submitted to the Department for approval.
.			
Technology alternatives			
Preferred Alternative – Connecting of services (i.e. electrical) to municipal lines			
Construction Phase			
Activities will be the same as the site alternatives	***Impacts:*** Potential impacts will be the same as indicated in the site alternative as the activities will occur simultaneously.		Refer to site alternative mitigation.
Alternative 2 – Solar energy			
Activities will be the same as the site alternatives	***Direct impacts:*** *Impacts associated will be the same as indicated at the site alternatives with the addition of the following impacts:* - Solar panels are very costly and are inconsistent in there electrical supply making them unfeasible for such a project.	Moderate negative	
	Indirect impacts: - The use of renewable energy will reduce the carbon footprint of the development. - Solar panels are very expensive and will result in the units being sold for a much higher price. The housing planned for this area is not high cost housing.	Moderate Negative	
	Cumulative impacts: - The use of renewable energy will reduce the carbon footprint of the development.		
No-go option			
	Direct impacts: None		
	Indirect impacts: Although no environmental impacts will occur if the no-go alternative is decided		

Activity	Impact summary	Significance	Proposed mitigation
	on, the opportunity to provide more chickens to the area will be lost. The opportunity to provide people from the local community with job opportunities in the operational phase will also be lost.		
	Cumulative impacts: None		

A complete impact assessment in terms of Regulation 19(3) of GN 982 is included in appendix H.

2. ENVIRONMENTAL IMPACT STATEMENT

Alternative A (preferred alternative)

This layout has been amended to ensure that the proposed development does not affect environmentally sensitive areas with buffers implemented in order to ensure that there is minimal impact on 'A' channel that is to the north of the proposed site.

The likelihood of the expected impacts actually occurring will be small and limited if all the recommended mitigation measures are implemented throughout all the phases of the project. Impacts that will be associated with the Construction Phase will be temporary of nature. Although the activities that will be associated with the Operational Phase will be permanent, the potential impacts expected to be associated with this phase will be temporary and local in nature if the recommended mitigation measures are implemented. If proper management of any waste (including general and animal waste) and pests (e.g. flies and rats) is implemented, the likelihood of the potential impacts actually occurring will be low.

In conclusion, if all the recommended measures are implemented, the significance of the impacts expected to be associated with the proposed houses will be low.

Alternative B

N/A

Alternative C

N/A

No-go alternative (compulsory)

No environmental impact will occur as a result of the no-go alternative. However, the opportunity to create an opportunity for chicken egg farmers in the area to lower costs and provide people from the local community with job opportunities that will be associated with the Operational Phase will be lost.

SECTION D: PUBLIC PARTICIPATION

1. Advertisement and Notice

Publication name	**Zeerust News (Mmega Dikgang) and the Beeld**	
Date published	**16 August 2019 and 13 August 2019**	
Site notice position	**Latitude**	**Longitude**
	26°15'5.95"E	**25°22'10.74"S**
Date placed	**22nd July 2019**	

Include proof of the placement of the relevant advertisements and notices in Appendix I.

2. Determination of appropriate measures

Name	**Organisation / Interest**	**Contact details**
Mr Duncan van Greunen (The applicant)	Portion 78 of Farm Meseg 77	C: 072 824 1385 E: duncan@insulatedsa.co.za
Mr Jan Roos (neighbouring landowner)	Portion 55 of the Farm Mezeg 77	C: 083 702 6304 E: janroos@proteawi.co.za
Mr Khalil Hayay (neighbouring landowner)	Portion 21 of the Farm Mezeg 77	C: 081 289 8040 E: rumzhayat@yahoo.com
Mr Peter Fett (neighbouring landowner)	Portion 81 of the Farm Mezeg 77	C: 083 297 8467 E: piet@tabatshimo.com
Mr Rudi Fett (neighbouring landowner)	Portion 79 of the Farm Mezeg 77	E: wfett@absamail.co.za
Christi Grobler (neighbouring landowner)	Portion 76 of the Farm Mezeg 77	C: 073 747 2355 E: marie.amazinggrace@gmail.com

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	**Summary of response from EAP**
Mr Roos thanked Eko Environmental for letting him know about the proposed construction of chicken houses on portion 78 of Farm Mezeg 77 but had the following concerns: 1. Mr Roos is contracted with RCL Foods to grow chickens (currently operated chicken broiler houses in the vicinity). 2. Mr Roos is worried about biosecurity being an issue (diseases outbreaks)	Eko Environmental thanked Mr Roos for raising his concerns and responded with the following: 1. Your statement that you are contracted with RCL foods is noted. 2. Your concern regarding biosecurity is noted. It must be stated that Supreme Chicken, the contractors for the applicant, visited the site and had no issues regarding the close proximity with your site and that biosecurity is always a concern and will be taken into account. They further stated that such issues can be directly raised with them. We can provide you with the appropriate contact details should you wish to speak to them.

and the close proximity to his own chicken broiler houses. 3. Mr Roos is worried about a multi-age site. 4. Mr Roos is worried about the storage of manure. 5. Mr Roos is worried about his working contract with RCL Foods.	3. Appropriate planning between Mr Roos and the applicant can be made regarding timeframes for growing of chicken so as to coincide in order to deal with this potential issue. 4. The manure will be temporarily stored at the bunded location on the eastern side of the farm away from current activities and will eb stored temporarily until being sold or given to surrounding farmers as fertiliser or feed. 5. Your concern regarding your contract with RCL Foods is noted.
Mr Khalil Hayay had the following issues: 1. a) The applicant has ignored the constitutional principle of a family that ahs been living in the area for over 60 years. b) Mr Hayay had an issue with the potential odour and dust to be produced. c) Mr Hayay had an issue with the potential noises to be produced. d) Mr Hayay had an issue with the potential pollution to be produced. 2. Mr Hayay indicated that reasons for the proposed development be given. 3. Mr Hayay indicated that they will consider speaking to a legal representative regarding the matter. 4. Mr Hayay had an issue on the amount of wastage of water from the proposed project. 5. Mr Hayay had an issue with the disposal of the chicken manure. 6. Mr Hayay indicated that they object to the proposed project.	We at Eko Environmental acknowledge your letter dated the 21st August 2019 and the issues therein. Our response is as follows: 1. a. We have not ignored the constitutional principle of a family as you were informed of the proposed project. This point is not valid insofar as the application for environmental authorisation. b. The proposed project does not produce excessive foul odours as will be explained in the Basic Assessment Report Process. The broiler houses are sealed with the chickens inside. No odour will be produced at this stage. Foul odours may arise when the chickens are removed and the broiler houses are cleaned which will be once every 40 days and will last approximately 2 days. The manure produced from the chickens will be appropriately disposed of and kept at a distance from other neighbours so as to limit that impact. Additionally the project will take place on portion 78 of the Farm Mezeg 77 and that is the confines of the said development. c. No noises are envisioned with the proposed activity except during the construction of the chicken broiler houses with said noises being temporary in nature. As stated above the chicken broiler houses are sealed and no noises will be able to travel the distance to your location to become a nuisance. In addition the surrounding area in question is an agricultural area so one can expect noises associated with agricultural activities such as farm animals, tractors etc. The proposed activity therefore falls in line with the surrounding area. d. What pollution are you referring to? There is no expected pollution apart from the manure that will temporarily reside on the farm before being sold and/ or used elsewhere. Please specify what source of pollution you are referring to? 2. The client wishes to proceed with the proposed project which is why he is applying for environmental authorisation and following the necessary legal requirements before said activities may commence. In addition it has been identified that there is a shortage of chickens for the use of poultry in the surrounding area of Zeerust which makes this project a positive boost as it will increase capacity. 3. You are within your rights to contact or brief environmental attorneys on this matter. It must be understood that the client is following his legal rights to apply for environmental authorisation to construct chicken broiler houses on the aforementioned farm and that part of the process

	involves communicating with the surrounding neighbours. 4. The location of the proposed project, portion 78 of Farm Mezeg 77, is host to a registered borehole which the client will make use of to both supply the chicken layer houses with water and to clean the chicken houses after every cycle. The client is within his rights to make use of water that is demarcated and allocated for that specific farm. This does not constitute wastefulness as it will be used for its intended use. Furthermore the construction of the chicken broiler houses involves a storm water management plan that ensure that water used for the project remains on site and does not contaminate surrounding water resources. 5. The chicken manure that is produced from the proposed activity is a sought after commodity by farmers for fertiliser and as a source of food for other animals such as cows. This is its intended use in this case. The manure will be stored at a bunded demarcated location after every cycle before being sold/given to surrounding farmers for this purpose. The dominant wind direction in the valley does not flow towards your direction from the proposed site making this issue void. In addition the ventilation used at the chicken broiler houses will be placed away from the road to flow towards the east. Lastly it can be stated that there are already chicken broiler houses in the vicinity making the surrounding area an ideal location for additional houses. The next phase of reports will be sent to you which further explains the processes and environmental impacts involved and you are welcome to raise additional concerns at the time.
Mrs Christi Grobler had the following issues: Your application to erect eight fowl rearing units on stand: portion 78 of the farm Mezeg 77, Ramotshere Moiloa Local Municipality (Enzelsberg), Zeerust is applicable. Two questions arise. 1) How much water will on average be needed per month in total? 2) Seeing that the area is an arid area, where will you source water from? http://www.poultryhub.org/nutrition/nutrient-requirements/water-consumption-rates-for-chickens/ Eight runs each rearing 50000 birds total 400000 birds	Eko Environmental thanked Mrs Grobler for raising her concerns over the aforementioned project. Eko Environmental responded with the following: The proposed site for the project (portion 78 of farm Mezeg 77) is host to a registered borehole that has the capacity to supply the chicken broiler houses with enough water. The borehole is currently being used to supply a neighbouring farm with water for their chicken houses which will cease with the completion and operation of this proposed project. The exact expected amount of water to be used for the project per month will be included in the Basic Assessment Report which will be sent to you as soon as it is made available. It is known, however, that the borehole on site can sustainably yield in excess of 100 000L per day. In addition should capacity be lacking in the future it is the intent of the client to search for additional water resources and following the necessary legal requirements, such as applying for a water use license, should it be necessary. Lastly it must be noted the Department of Water and Sanitation is an affected stakeholder in the project and that all documentation is also

Age Litters/1000 /day 4 weeks 100 400x100 =40000 Lit/day 12 weeks 160 400x160 =64000 Lit/day Lets say 50000 litters average per for 42 days. 2) Seeing that me and my disease husband spent more than 10 year analyzing ground water possibilities all over the country, and seeing that he intensely studied the local area in concern. I think you would agree that I do have sufficient knowledge of the ground water potential of the area. Therefore I raise the question: where do you intend to source water from? Above mentioned raises the question of over exploiting the areas ground water thereby depriving me and other neighbour's of water. I have 120mango trees of older that 15 years on land bordering on the land in question. If I lose my underground water it will not only deprive me of an needed income but will also devaluate my land to useless. Therefore, if this enterprise is granted permission to continue, I will require either compensation of my loss to the then value, equal to 15 tons of mangos (presently selling as R5/kg, escalation at 5% pa.) per year or that the entrepreneur acquire my land bordering on his witch is in the market presently for R1.3M	sent to them for review.

6. COMMENTS AND RESPONSE REPORT

See appendix I

7. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Name	Organisation / Interest	Contact details
Mr. Andrew Salomon	SAHRA	Tel: 021 462 4502 Fax: 021 462 4549 asalomon@sahra.org.za P.O. Box 4637 Cape Town 8001
Ms Rachel Mpe & Ramashala Lethabo	North-West Department of Water and Sanitation	Tel: 018 387 9505 M: 082 804 8730 E: mper@dws.gov.za E: ramashalaL@dws.gov.za Cnr Dr. James Moroka Drive and Sekame Road Mega City Complex Unit 99 Sekame Street MMABATHO 2735
Ms. Neo Mokotedi	North West Department of Economic Development, Environment, Conservation and Tourism	Tel: 018 389 5156 Fax: 018 384 0104 Agricentre Building Cnr. Dr James Moroka & Stadium Road Mmabatho 2735 NMokotedi@nwpg.gov.za
Ms. Neo Lemme and Mr Ditshaba Makhate (Municipal Manager)	Ramotshere Moiloa Local Municipality	Tel: 018 642 1081 Fax: 086 697 0729 Cnr President & Coetzee Street ZEERUST 2865 P.O. Box 92 ZEERUST 2865 E: neo.lemme@ramotshere.gov.za E: sec.admin@ramotshere.gov.za

8. CONSULTATION WITH OTHER STAKEHOLDERS

N/A

SECTION E: RECOMMENDATION OF PRACTITIONER

In addition to the recommended mitigation and management measures described in Part 2 of Section C, the following conditions are recommended:

Specific

- No operation will commence without the necessary Environmental Authorisation.

General

- Measures to manage storm water and waste (general and condemned carcasses) will be implemented and maintained to limit and/or prevent erosion, pollution and disease.

- Receptacles should be placed on site for the collection of general waste. These receptacles should be emptied on a regular basis and waste be disposed of at an authorised landfill site.
- All condemned carcasses will be managed appropriately until removed from site.
- No construction and / or any other waste will be dumped in the veld or on site.
- SAHRA will be notified should traces of any paleontological heritage be found during construction.
- Temporary toilets will be placed on site during the construction phase and any sewage should be managed appropriately and should not be disposed of on site or the surrounding environment.

SECTION F: AFFIRMATION BY EAP

I, Richard Deneys Williamson, of Eko Environmental hereby declare that the information provided is correct and relevant to the activity/ project and that, the information was made available to interested and affected parties for their comments. All specialist (s) reports are relevant for the competent authority to make informed decision.

_____ _____

Signature of EAP Date