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Department:  
Economic Development, Environment and Tourism  
MPUMALANGA PROVINCIAL GOVERNMENT

**Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998(Act No. 107 of 1998), as amended.**

**Kindly Note:**

1. Required information must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. Tables can be extended as each space is filled with typing.
2. Where applicable **black out** the boxes that are not applicable in the form.  
(For applicant / EAP to complete)

**File Reference Number:**

17/2/3/N-228

**Project Title:**

Funda Mlimi Poultry Abattoir

**Name of Responsible Official:**

Okwethu Kuale

3. An incomplete report may be returned to the applicant for revision.
4. 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 may result in the rejection of the application as provided for in the regulations.
5. All reports (draft and final) must be submitted to the Department at the address of the relevant **DISTRICT OFFICE** given

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**NEAS Reference Number:**

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below or by delivery thereof to the relevant **DISTRICT OFFICE**. Should the reports not be submitted at the relevant district office, they will not be considered.

6. No faxed or e-mailed reports will be accepted.
7. One copy of the draft version of this report must be submitted to the relevant district office. The case officer may request more than one copy in certain circumstances.
8. **Copies of the draft report must be submitted to the relevant State Departments / Organs of State for comment.** In order to give effect to Regulation 56(7), proof of submission/delivery of the draft documents to the State Departments / Organs of State must be attached to the draft version of this report.
9. 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.
10. All specialist reports must be appended to this document, and all specialists must complete a declaration of independence, which is obtainable from the Department.

# Project Details

**Title** : Proposed Funda Mlimi Poultry Abattoir, Mpumalanga Province

**Project Number** : 108672

**Client** : Department of Agriculture, Rural Development and Land Administration

**Client Representative** : Endecon Ubuntu Pty Ltd – Wicus Burger

**Authors** : Anne-Mari White

**Aurecon Report Number** : 8049

**Report Status** : Draft

**Date** : August 2013

**AUTHOR:**

**APPROVED:**

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Anne-Mari White  
**Environmental Specialist**

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BAREND SMIT (PR L Arch)  
**Technical Director**

***This report is to be referred to in bibliographies as:***

*BASIC ASSESSMENT REPORT: PROPOSED FUNDA MLIMI POULTRY ABATTOIR, MPUMALANGA /SMIT, BHJ; WHITE, A., AUGUST 2013.  
(AURECON PROJECT REPORTS) REPORT NUMBER: 8049.*

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# Executive Summary

*Aurecon (Pty) Ltd, as Independent Environmental Consultants and Impact Assessors, has been appointed by the Endecon Ubuntu Pty Ltd, to conduct the Environmental Impact Assessment for the proposed Funda Mlimi Poultry Abattoir located approximately 45km north of Bronkhorstspuit, Mpumalanga Province.*

*The project proposal has been informed by intensive planning so as to ensure that this proposed activity has a minimal negative impact, while promoting positive impacts, on the receiving environment.*

*An Ecological Sensitivity Analysis and Aquatic Assessment were conducted. The specialist recommended various mitigation measures to minimize the impacts and these measures have been incorporated into the Basic Assessment Report and Draft Environmental Management Plan. A wetland delineation will also be conducted and incorporated into the Final Basic Assessment Report*

## PUBLIC PARTICIPATION

*Public participation forms an integral component of the EIA process. The public participation process for the project initiation and Draft Basic Assessment Phase is outlined in detail in Section 4.4 of this report.*

*The approach adopted for the DBAR phase of the project was to liaise predominantly with registered I&APs or those directly affected by the proposed activities. Consequently, subsequent correspondence has only been directed to registered I&APs and commenting Authorities.*

*The public participation process to date has entailed the following key components:*

- *Placing advertisements in the local newspaper, The Witbank News, on 25 April 2013;*
- *Placing two site notices at the site;*
- *Providing written notice to potential I&APs, including surrounding landowners; and*
- *Requesting potential I&APs to recommend other potential I&APs to include on the database (chain referral process).*

- *Lodging copies of the DBAR, for public review and comment, as well as sending a hard copy to all registered I&AP's who requested such.*
- *Submission of the DBAR to all departments and registered I&AP's for review and comment.*

## KEY ENVIRONMENTAL ISSUES

*The assessed impacts were identified in the planning phase and have been subjected to detailed investigation and assessment. These impacts include potential biophysical and social impacts that may arise during the operational phase of the proposed activities (i.e. long-term impacts) and construction phase impacts (i.e. short-term impacts).*

*The methodology was developed by Aurecon and has been continually refined and improved based on our experience in applying it to many EIA processes. The methodology is broadly consistent to that described in the NEMA EIA Regulations and in the DEA Guideline Document for these regulations (DEAT, 2006).*

*Each issue identified for the proposed study area was taken into consideration in order to ascertain the most suitable layout that has the least possible impacts, or the most manageable impacts, on the environment.*

*The following table summarises the significance of the identified potential impacts (i) before mitigation; and (ii) once recommended mitigation measures are in place.*

Ref	Nr.	Potential impact	Alternative	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Construction Phase</b>									
1	Noise pollution	1	Proposed	No mitigation	Low	Site Specific	Construction	Low	
		1	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low	
		2	Proposed	No mitigation	Low	Site Specific	Construction	Low	
		2	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low	
		3	Proposed	No mitigation	Low	Site Specific	Construction	Low	
		3	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low	
			No-go alternative	No mitigation	Zero	Site Specific	Construction	Neutral	
			No-go alternative	Mitigation	Zero	Site Specific	Construction	Neutral	
2	Dust pollution	1	Proposed	No mitigation	Medium	Local	Construction	Low	
		1	Proposed	Mitigation	Low	Local	Construction	Very Low	
		2	Proposed	No mitigation	Medium	Local	Construction	Low	
		2	Proposed	Mitigation	Low	Local	Construction	Very Low	
		3	Proposed	No mitigation	Medium	Local	Construction	Low	
		3	Proposed	Mitigation	Low	Local	Construction	Very Low	
			No-go alternative	No mitigation	Zero	Regional	Construction	Neutral	
			No-go alternative	Mitigation	Zero	Regional	Construction	Neutral	
3	Surface and groundwater contamination	1	Proposed	No mitigation	High	Local	Medium Term	Medium	
		1	Proposed	Mitigation	Medium	Local	Medium Term	Low	
		2	Proposed	No mitigation	Medium	Local	Medium Term	Low	
		2	Proposed	Mitigation	Low	Local	Medium Term	Very Low	
		3	Proposed	No mitigation	Medium	Local	Medium Term	Low	
		3	Proposed	Mitigation	Low	Local	Medium Term	Very Low	
			No-go alternative	No mitigation	Zero	Local	Medium Term	Neutral	
			No-go alternative	Mitigation	Zero	Local	Medium Term	Neutral	
4	Impact on wetland	1	Proposed	No mitigation	High	Site Specific	Short Term	Medium	
		1	Proposed	Mitigation	Medium	Site Specific	Short Term	Low	
		2	Proposed	No mitigation	Low	Site Specific	Short Term	Low	
		2	Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low	
		3	Proposed	No mitigation	Medium	Site Specific	Short Term	Low	
		3	Proposed	Mitigation	Low	Site Specific	Short Term	Very Low	
			No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral	
			No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral	
5	Ecological Impact	1	Proposed	No mitigation	Medium	Site Specific	Long Term	Medium	
		1	Proposed	Mitigation	Low	Site Specific	Long Term	Low	
		2	Proposed	No mitigation	Low	Site Specific	Long Term	Low	
		2	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low	
		3	Proposed	No mitigation	Low	Site Specific	Long Term	Low	
		3	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low	
			No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral	
			No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral	
6	Job oppertunities (+)	1	Proposed	No mitigation	Low	Local	Construction	Low	
		1	Proposed	Mitigation	Medium	Local	Construction	Medium	
		2	Proposed	No mitigation	Low	Local	Construction	Low	
		2	Proposed	Mitigation	Medium	Local	Construction	Medium	
		3	Proposed	No mitigation	Low	Local	Construction	Low	
		3	Proposed	Mitigation	Medium	Local	Construction	Medium	
			No-go alternative	No mitigation	High	Local	Construction	High	
			No-go alternative	Mitigation	High	Local	Construction	High	

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Operational</b>							
1	Air pollution	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
2	Dust generation	1 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral
3	Surface and ground water contamination	1 Proposed	No mitigation	High	Local	Long Term	High
		1 Proposed	Mitigation	Medium	Local	Long Term	Medium
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
4	Disposal of waste	1 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		1 Proposed	Mitigation	Low	Local	Medium Term	Low
		2 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		2 Proposed	Mitigation	Low	Local	Medium Term	Low
		3 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		3 Proposed	Mitigation	Low	Local	Medium Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Medium Term	Neutral
5	Odours	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral
6	Noise pollution	1 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral
7	Increased traffic	1 Proposed	No mitigation	Low	Local	Long Term	Low
		1 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		2 Proposed	No mitigation	Low	Local	Long Term	Low
		2 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		3 Proposed	No mitigation	Low	Local	Long Term	Low
		3 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
8	Health and safety of consumers and co-workers	1 Proposed	No mitigation	High	Regional	Medium Term	High
		1 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		2 Proposed	No mitigation	High	Regional	Medium Term	High
		2 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		3 Proposed	No mitigation	High	Regional	Medium Term	High
		3 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		No-go alternative	No mitigation	Zero	Regional	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Regional	Medium Term	Neutral

## RECOMMENDED MANAGEMENT ACTIONS

*A variety of mitigation measures have been identified that could mitigate the scale, intensity, duration or significance of the impacts. These measures, which have been informed by the specialist study conducted, are included in this DBAR and in the draft EMP (attached). The DBAR and draft EMP also includes guidelines to be applied during the construction and operational phases of the project.*

## CONCLUSION

*Development, by its very nature, implies impact. The EIA process identifies and quantifies these impacts. Where possible these impacts are avoided through planning revision. In other cases mitigation is proposed to reduce the severity and significance of the impacts.*

*The DBAR provides a summary description of the feasible alternatives and potential impacts identified during the DBAR Phase; additional information on the affected environment, a description and assessment of the potential impacts associated with the various feasible alternatives as well as an indication of potential mitigation measures; conclusions and various recommendations with regard to the way forward; and a series of Appendices containing relevant information, including the various specialist studies.*

*The draft EMP provides much more detailed mitigation measures and should all proposed mitigation measures be instituted it is not envisaged that the proposed development poses any negative impacts of high significance which cannot be mitigated.*

*It is the final considered opinion of the Environmental Assessment Practitioner (Aurecon) that the proposed project will not have a detrimental negative impact on the surrounding environment if all mitigation measures are implemented.*

*It is therefore the **EAP's recommendation that authorisation be granted provided that good environmental practices be implemented**; and that this will include environmentally sensitive planning and design of all structures.*

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# Abbreviations

Terms	
<b>ECO</b>	Environmental Control Officer –  <i>A person appointed by the project manager, developer, engineer or contractor to oversee compliance to the EMP. This person can be an internal appointment or an external consultant/specialist depending on the authorities' requirements.</i>
<b>Environment</b>	the external circumstances, conditions and objects that affect the existence and development of an individual, organism or group; these circumstances include biophysical, social, economic, historical, cultural and political aspects.
<b>Environmental Impact Assessment (EIA)</b>	a study of the environmental consequences of a proposed course of action.
<b>Environmental impact</b>	an environmental change caused by some human act
<b>Geotechnical</b>	the study of geological conditions
<b>Hydrological</b>	the study of surface water and groundwater flow
<b>Public Participation Process</b>	a process of involving the public in order to identify needs, address concerns, choose options, plan and monitor in terms of a proposed project, programme or development
<b>Red Data Book (South African)</b>	an inventory of rare, endangered, threatened or vulnerable species of South African plants and animals

## Abbreviations

<b>DEA</b>	Department of Environment Affairs
<b>DME</b>	Department of Minerals and Energy
<b>DBAR</b>	Draft Basic Assessment Report
<b>DWAF</b>	Department of Water Affairs and Forestry
<b>ECA</b>	Environment Conservation Act
<b>ECO</b>	Environmental Control Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Programme
<b>EIR</b>	Environmental Impact Report
<b>I&amp;APs</b>	Interested and Affected Parties
<b>IDP</b>	Integrated Development Plan
<b>IEM</b>	Integrated Environmental Management
<b>MDEDET</b>	Mpumalanga Department of Economic Development, Environment and Tourism
<b>NEMA</b>	National Environmental Management Act
<b>NHRA</b>	National Heritage Resources Act
<b>NWA</b>	National Water Act
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SDF</b>	Spatial Development Framework
<b>ToR</b>	Terms of Reference
<b>WULA</b>	Water Use Licence Application

# 1 Section A: Background Information

<b>Project applicant:</b>	Department of Agriculture, Rural Development and Land Administration		
<b>Trading name (if any):</b>			
<b>Contact person:</b>	Endecon Ubuntu – Wicus Burger		
<b>Physical address:</b>			
<b>Postal address:</b>	P.O. Box 6215, Nelspruit		
<b>Postal code:</b>	1200	<b>Cell:</b>	083 304 1445
<b>Telephone:</b>		<b>Fax:</b>	
<b>E-mail:</b>	wicus@endecon.co.za		
<b>Environmental Assessment Practitioner:</b>	Aurecon South Africa (Pty) Ltd		
<b>Contact person:</b>	Ms. Anne-Mari White		
<b>Postal address:</b>	PO Box 3135, Nelspruit		
<b>Postal code:</b>	1200	<b>Cell:</b>	082 526 0770
<b>Telephone:</b>	013 752 7055	<b>Fax:</b>	013 753 2116
<b>E-mail:</b>	<a href="mailto:anne-mari.white@aurecongroup.com">anne-mari.white@aurecongroup.com</a>		
<b>Qualifications:</b>	BSc. Environmental Management		
<b>Professional affiliations (if any):</b>			

## *Details of the EAPs experience to carry out the Basic Assessment Procedure:*

The requirement for independence of the environmental consultant is aimed at reducing the potential for bias in the environmental process. Neither Aurecon nor any of its sub-consultants are subsidiaries of the developer nor is the developer a subsidiary to Aurecon. Furthermore, all these parties do not have any interests in secondary or downstream developments that may arise out of the authorisation of the proposed project.

Ms. White is an Environmental Specialist, who started her studies at the University of Northwest and completed her BSc (Environmental Management) degree at the University of South-Africa (UNISA) in 2007. In addition to this qualification, she has done short courses in soil classifications and wetland delineations (Terrasoil), Geographic Information Systems (University of Kwazulu-Natal) as well as Environmental Impact Assessments (University of Northwest).

Ms. White's environmental consulting experience includes, Basic Impact Assessments, Environmental Impact Assessments, Public Participation Processes, Environmental Management Plans, Water licensing and Authorisations, as well as Waste License Applications. CV's can be made available upon request.

## 2 Section B: Detailed description of the proposed activity

Describe the activity, which is being applied for, in detail. The description must include the size of the proposed activity (or in the case of linear activities, the length) and the size of the area that will be transformed by the activity.

### **Background**

In terms of the National Environmental Management Act No 107 of 1998 the proposed development triggers activities which may impact on the environment. As a result the Applicant requires Environmental Authorisation from the competent authority, the Mpumalanga Department of Economic Development environment and Tourism (MDEDET) to commence with development. This project will also require a Waste License from the Department of Environmental Affairs (DEA) as waste licensing activities as listed in GN 718 of July 2009.

Aurecon South Africa (Pty) Ltd has been appointed by the Applicant as the independent environmental consultants to undertake the Environmental Impact Assessment (EIA) and Waste Licensing Process required by the competent authority. The process will investigate whether there are any potential significant positive and negative environmental, social and economic impacts associated with the construction and operation of the proposed Funda Mlimi Abattoir. The development will comprise of:

- New regional offices within a close proximity of the existing offices;
- Two new broiler houses next to the existing broiler houses;
- Effluent Treatment Plant;
- Irrigation; and
- Repair of the existing dams.

# 3 Section C: Property/Site Description

Provide a full description of the preferred site alternative (farm name and number, portion number, registration division, erf number etc.):

The site is situated approximately 25km to the north of Bronkhorstspuit town in Mpumalanga Province. The site is located on Portion 1 of the farm Gemsbokspruit 231 JR; Thembisile Hani Local Municipality. A locality map has been attached as Appendix A.

Within the boundary of this farm, 3 alternative sites have been identified and is also indicated and attached as appendix A.

Indicate the position of the activity using the latitude and longitude of the center point of the preferred site alternative. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection. The position of alternative sites must be indicated in Section B of this document.

Latitude (S):		Longitude (E):	
25°	26'5.48"S	28°	51'27.81"E

In the case of linear activities:

	Latitude (S):	Longitude (E):
• Starting point of the activity	<input type="text"/>	<input type="text"/>
• Middle point of the activity	<input type="text"/>	<input type="text"/>
• End point of the activity	<input type="text"/>	<input type="text"/>

## Site or Route Plan

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

The site or route plans must be at least A3 and must include the following:

- a reference no / layout plan no., date, and a legend / land use table
- the scale of the plan which must be at least a scale of 1:2000;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application as well as any other structures on the site;
- 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;
- all indigenous trees taller than 1.8 metres and all vegetation of conservation concern (protected, endemic and/or red data species);
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
  - watercourses and wetlands;
  - the 1:100 year flood line;
  - ridges;
  - cultural and historical features;
- 10 metre contour intervals



## ***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 as an appendix to this form.

## ***Facility Illustrations***

A detailed illustration of the activity must be provided at a scale of 1:200 as an appendix for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.



# 4 Section D: Basic Assessment Report

Prepare a basic assessment report that complies with Regulation 22 of the Environmental Impact Assessment Regulations, 2010. The basic assessment report must be attached to this form and must contain all the information that is necessary for the competent authority to consider the application and to reach a decision contemplated in Regulation 25, and must include:

(Checklist  
for official  
use only)

1. A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.

**Refer to Section 4.2**

2. An identification of all legislation and guidelines that have been considered in the preparation of the basic assessment report.

**Refer to Section 4.1**

3. Details of the public participation process conducted in terms of Regulation 21(2)(a) in connection with the application, including –

(i) the steps that were taken to notify potentially interested and affected parties of the proposed application;

(ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given;

(iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 55 as interested and affected parties in relation to the application; and

(iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;

**Refer to Section 4.4 and relevant Appendices**

4. A description of the need and desirability of the proposed activity;

**Refer to Section 4.5**

5. A description of any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity;

**Refer to Section 4.3**

6. A description and assessment of the significance of any environmental impacts, including—

(i) cumulative impacts, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the activity;

(ii) the nature of the impact;

the extent and duration of the impact;

the probability of the impact occurring;

the degree to which the impact can be reversed;

the degree to which the impact may cause irreplaceable loss of resources; and

the degree to which the impact can be mitigated;

**Refer to Section 4.6**

7. Any environmental management and mitigation measures proposed by the EAP;

**Refer to Section 4.6 and the Environmental Management Programme appended to this report**

8. Any inputs and recommendations made by specialists to the extent that may be necessary;

**Refer to Section 4.6 and Specialist studies appended to this report**

9. A draft environmental management programme containing the aspects contemplated in regulation 33;

**Appendix F1**

10. A description of any assumptions, uncertainties and gaps in knowledge;

**Refer to Section 4.7**

11. A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation

**Refer to Section 4.8**

12. Any representations, and comments received in connection with the application or the basic assessment report;

**Refer to Section Appendix G.3**

13. The minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants;

**No meeting was held**

14. Any responses by the EAP to those representations, comments and views;

**Refer to Section Appendix G.4**

15. Any specific information required by the competent authority; and

**Refer to Section Appendix F**

16. Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

**Refer to Section Appendix F**

### *The basic assessment report must take into account -*

- (a) any relevant guidelines; and
- (b) any departmental policies, environmental management instruments and other decision making instruments that have been developed or adopted by the competent authority in respect of the kind of activity which is the subject of the application.

\* In terms of Regulation 22(4), the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in subregulation 22(2)(h), exist.

**Have reasonable and feasible alternatives been identified, described and assessed?**

**YES** ✓

**NO**

**If NO, the motivation and investigation required in terms of Regulation 22(4) must be attached as an Appendix to this document.**

## 4.1 Legal Requirements

### 4.1.1 The Constitution

Section 24 of the Constitution of the Republic of South Africa (Act 108 of 1996) provides the basic right to an environment which is not harmful to any person's health or wellbeing, as well as to have the environment protected through legislation and any measures which:-

Prevents pollution and / ecological degradation;  
Promotes conservation;  
Secures ecological sustainable development; and  
The sustainable use of resources.

At the same time, Section 25 of the Constitution guarantees everyone the right of access to information which is essential for them to exercise their Constitutional right including any information pertinent to the environmental assessment (EA) or EIA process. For this reason, Public Participation is considered as an essential mechanism for informing stakeholders of their rights and obligations in terms of the project.

### 4.1.2 National Environmental Management Act (No. 107 of 1998)

NEMA, as amended, establishes the principles for decision-making on matters affecting the environment. Section 2 sets out the National Environmental Management Principles which apply to the actions of organs of state that may significantly affect the environment. Furthermore, Section 28(1) states that "every person who causes or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring". If such pollution or degradation cannot be prevented then appropriate measures must be taken to minimise or rectify such pollution.

The developer has the responsibility to ensure that the proposed activity as well as the EIA process conforms to the principles of NEMA. In developing the EIA process, Aurecon has been cognisant of this need, and accordingly the EIA process has been undertaken in terms of NEMA and the EIA Regulations promulgated on 18 June 2010.

In terms of the EIA regulations, certain activities are identified, which require authorisation from the competent environmental authority, in this case Mpumalanga Department Economic Development, Environment and Tourism (MDEDET), before commencing. Listed activities in Government Notice (GN) No. 545 require Scoping and EIA whilst those in GN No. 544 and 546 require Basic Assessment (unless they are being assessed under an EIA process). The activities being applied for in this EIA process are listed in **Table 1**.

**Table 1: Listed activities in terms of NEMA GN No. 544**

**Listed activities in terms of NEMA GN No. 544, 18 June 2010, to be authorised**

<b>NO.:</b>	<b>Listed Activity:</b>	<b>Relevant to:</b>
<b>3</b>	The construction of facilities or infrastructure for the slaughter of animals with a product throughput of: poultry exceeding 50 poultry per day; or game and red meat exceeding 6 units per day.	The construction of the poultry abattoir.
<b>5</b>	The construction of facilities or infrastructure for the concentration of: (i) more than 1 000 poultry per facility situated within an urban area, excluding chicks younger than 20 days (ii) more than 5 000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days	The proposed poultry houses will have a capacity of 40 000 birds.
<b>8</b>	The construction of a hatchery or agri-industrial infrastructure outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.	The development footprint will cover an area of 9000m <sup>2</sup>
<b>11</b>	The construction of; i) Canals ii) Channels iii) Bridges iv) Dams v) Weirs vi) Bulk storm water outlet structures; vii) Marinas viii) Jetties exceeding 50 square meters in size; ix) Slipways exceeding 50 square meters in size; x) Buildings exceeding 50 square meters in size; xi) Infrastructure exceeding 50 square meters in size;  Where construction occurs within a watercourse or within 32 meters of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	There is a big possibility that infrastructure might be construction within a watercourse as a relatively big area within the farm boundaries can be classified as wetland.

**GN R 543 – the Environmental Authorisation process**

Based on NEMA and GN R 543 DARDLA requires Environmental Authorisation from the competent authority, the Mpumalanga Department of Economic Development, Environment and Tourism, (MDEDET) as well as a Waste License from the Department of Environmental Affairs (DEA) to commence development.

Application to the MDEDET for Environmental Authorisation in terms of NEMA does however not absolve the applicant from complying with other statutory requirements. In this regard the following national and provincial legislation will apply inter alia to the project.

a. National Legislation:

- The Conservation of Agricultural Resources Act No 43 of 1983.
- Occupational Health and Safety Act No 85 of 1993.
- Development Facilitation Act No 67 of 1995.
- National Road Transport Act No 93 of 1996.
- Extension of Security Tenure Act No 62 of 1997.
- Basic Conditions of Employment Act No 75 of 1997.
- Prevention of Illegal Eviction from and Unlawful Occupation of Land Act No 19 of 1998.
- The National Water Act No 36 of 1998.
- The National Heritage Resources Act No 25 of 1999.
- Promotion for Administrative Justice Act No 3 of 2000.
- The National Environmental Management: Protected Areas Act No 57 of 2003.
- The National Environmental Management: Biodiversity Act No 10 of 2004.
- The National Environmental Management: Waste Act No 59 of 2008.
- National Water Act No 36 of 1998
- Traditional Leadership and Governance Framework Amendment Act No 23 of 2009.

***Integrated Environmental Management (Chapter 5)***

Section 24(1) of NEMA requires that the potential impacts of projects or activities must be considered, investigated, assessed and reported to the Competent Authority, while Section 24(2) empowers the Minister (or MEC) to identify such projects or activities which require authorisation. These activities are listed in Government Notice R 544 of 18 June 2010 (activities requiring Basic Assessment); GNR 545 of 18 June 2010 (activities requiring full Environmental Impact Assessment) and GNR 546 of 18 June 2010 (activities requiring Basic of full Environmental Impact Assessment dependent on provincial requirements) published in terms of Section 24D of NEMA. Section 24 (5) of NEMA empowers the Minister (or MEC) to draft regulations which provide a framework for the authorisation process, and which is provided in GNR 543 of 18 June 2010.

In terms of Section 24F, failure to obtain environmental authorisation for listed activities constitutes an offence and, either jointly or severally, convicted persons can be fined up to R5 000 000 as well as face imprisonment for up to ten years.

## **4.2 Description of the receiving environment**

### **4.2.1 Geographical aspects**

Three alternative sites were identified for this proposed poultry abattoir and all three of these sites are located within the boundary of portion 1 of the farm Gemsbokspruit 231 JR, Thembesile Hani Local Municipality. There are already some poultry houses located on the site and therefore the site is currently being used for agricultural purposes. The site is also surrounded by other farms.

Verena is located approximately 15km south-east of the proposed site. Gemsbokspruit, Vlaklaagte and Somaroboro-Eare located just north and within a close proximity of the site.

#### **4.2.2 Physical aspects**

According to the 1:250 000 geological sheet 2528 Pretoria, the site is underlain by grey to pink and red, medium to coarse-grained, granite of the Nebo Granite, Lebowa Granite suite, Bushveld Complex. The type of soil can be classified as loamy sand, sandy loam, and loam.

The mean annual precipitation for Mpumalanga is indicated as 736mm and varies between 341mm and 1933mm (Dent, Lynch & Schulze, 1989). Rainfall seasonality distribution is dominantly early summer with rainfall concentration in December or earlier and sub-dominantly midsummer with peak concentration in January.

The topography of the area is undulating, sloping east-north-east at an estimated gradient of 2.110. There is also a drainage line going through the middle of the farm from the south-western boundary towards the north-east. Therefore the farm also slopes inwards towards this drainage area.

#### **4.2.3 Biological aspects**

The area has already been transformed due to agricultural activities. The largest portion of the property drains towards the east-north-east of the proposed area and forms part of the upper reaches of the Gemsbokspruit. The south-eastern corner of the site forms part of the Moses River.

#### **4.2.4 Social and Economic aspects**

The Thembisile Hani Local Municipality forms part of the Nkangala District Municipality. Urbanised areas within the municipality include various scattered villages. The areas, Verena, Gemsbokspruit, Somaroboro and Vlaklaagte are within a close proximity to this site. The closest town is Bronkhorstspruit and it is situated approximately 45km south of the proposed site.

The majority of the urban areas within Thembisile Local Municipality are informal settlements with limited infrastructure. Thembisile Local Municipality's local economy is dominated by community services, trade (formal and informal), and manufacturing. The economy within the municipal area is very small when its GGP is compared to that of the other Nkangala District Municipalities. According to the IDP of Thembisile Local Municipality, Agriculture has a high potential and needs to be nurtured.

The total population of Thembisile Hani Local Municipality is approximately 278 518 people according to the 2007 survey, with 99% of this total consisting of the black population group. Only 28% of this population was employed according to the 2007 statistics. This municipality is therefore characterized by high levels of unemployment and poverty.

Within the secondary processing phase of this project, 100 sustainable job opportunities will be created. 140 additional jobs will be created by the primary poultry producers; each poultry house is expected to generate 20 additional jobs. An additional 20 jobs or more will be created in maintaining the houses, transportation of the birds and inputs, cleaning and catching of the birds.

The Department of Agriculture, Rural Development and Land Administration, has invested a lot of capital in establishing poultry infrastructure in the form of poultry houses with a capacity of 40 00 birds each.

There is a huge opportunity for growth within the poultry industry, not only because of the expected growth in the demand for poultry, but also as imports make up a sizeable percentage of consumption. As the demand for poultry within South Africa is high and the excess demand is covered by the import market, it will be advantageous for government to establish a poultry abattoir which will absorb the produced chickens.

#### **4.2.5 Cultural aspects**

Heritage resources considered to be part of the national estate include those that are of cultural significance or have other special value to the present community or future generations.

The national estate may include:

- Places, buildings, structures and equipment of cultural significance;
- Places to which oral traditions are attached or which are associated with living heritage;
- Historical settlements and townscapes;
- Landscapes and natural features of cultural significance;
- Archaeological and paleontological sites;
- Graves and burial grounds

The area has previously been used for farming activities and therefore it has already been disturbed. No buildings or artefacts which could have been of cultural or historical value have been found during the site investigation. The possibility exists that subterranean material may be exposed during development. The relevant heritage resources authority or the archaeologist must then be informed.

### **4.3 Alternative Selection**

A requirement of Regulation 28 of the NEMA EIA Regulations of 18 June 2010 is the due consideration of feasible alternatives. Such alternatives may include location or site

alternatives, construction alternatives or the no-go<sup>1</sup> or status quo alternatives. The identification and examination of alternatives provides a basis for choice among the options available, and should consider other practicable strategies that will promote the elimination of negative environmental impacts, if any exists.

The quantitative alternatives assessment is based on comparison of the impact of the various alternatives on various environmental attributes. The significance of the impact is not evaluated, but rather whether the alternative is considered to have a negative (-1), positive (1) or no impact whatsoever (0).

### 4.3.1 Alternatives to Site Selection

Within the proposed property, three alternative sites were identified. All three alternative sites are located along the north-western boundary of the site as indicated in Appendix A.

The EIA will investigate various onsite layout alternatives.

#### 4.3.1.1.1 Construction Alternatives

The EIA will not investigate any construction alternatives.

#### 4.3.1.1.2 No Go Option

The proposed project is evaluated against the No-Go option in the EIA report. The potential impact of the proposed project on environmental, social and economic attributes identified during the scoping phase is evaluated against the potential impact of the no-go option on the same attributes.

## 4.4 Public Participation

### 4.4.1 Introduction

Consultation with I&APs forms an integral component of an EIA process and enables *inter alia* directly affected landowners, neighbouring landowners, stakeholders, communities, interested parties, key stakeholders, as well as authorities to identify the issues and concerns relating to the proposed activity.

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<sup>1</sup> “The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives and also provides the baseline against which the impacts of other alternatives should be compared” (DEAT, 2006).



Public participation as required in terms of the EIA Regulations can be, in general, separated into the following phases:

- *Initiation of Public Participation Process:* During this phase, I&APs are notified of the initiation of the environmental investigation, to enable them to register as I&APs, and raise issues and concerns at the outset of the investigation. An I&AP register is opened and maintained for the duration of the project whereby I&APs' contact details are captured in a database for future correspondence (refer to **Appendix G.3**).
- *Comment on Draft and Final Reports:* Registered I&APs are provided with an opportunity to comment on draft and final versions of the reports. This is enabled by the lodging of the reports at suitable locations and providing invitation to attend the focus group meeting to discuss the content of the relevant report.
- *Decision and Appeal period:* This is the final phase of the public participation process. Once the competent authority has made their decision and issued an Environmental Authorisation, the applicant and I&APs are notified of the decision and have the opportunity to appeal to the MEC of Environmental Affairs and Development Planning, within the stipulated timeframes.

Progress with respect to these various stages for the current project is discussed in more detail below. It should be noted that the public participation process developed for this investigation exceeds the minimum requirements of NEMA.

#### **4.4.2 Summary of public participation process to date**

The approach adopted for the initiation of the EIA and proposed PPP was to identify and contact as many I&APs as possible through a number of activities, which included:

- Placing advertisements in the local newspaper, *The Witbank News*, on 25 April 2013;
- Placing two site notices at the site;
- Providing written notice to potential I&APs, including surrounding landowners; and
- Requesting potential I&APs to recommend other potential I&APs to include on the database (chain referral process).
- The I&AP Register is continuously updated as new I&APs are identified and/ or requested to be included in the process

#### **4.4.3 Key issues identified during public participation phase**

During the public participation process no key issues were raised by registered I&APs.

#### **4.4.4 Public Participation with relation to the DBAR**

I&APs were notified of the DBAR and associated comment period by means of the following activities:

- A letter indicating the availability of the DBAR and associated 40 day public comment period was emailed on 28 August 2013.
- An electronic copy of the DBAR were posted to all registered I&AP for a comment period from 28 August 2013 until 7 October 2013 (for a period of 40 days).

#### **4.4.5 Public Participation with relation to the final Basic Assessment Report**

*To be completed at the time the final report is made available for comment.*

#### **4.4.6 Decision an appeal process**

Once the comment period for the Final BAR has been completed, and all I&AP comments will be collated and have been incorporated into the Comments and Response Report, the document will be submitted to the competent authority (MDEDET), who must, within 60 days, do one of the following:

- Accept the report;
- Notify the applicant that the report has been referred for specialist review;
- Request amendments to the report; or
- Reject the report if it does not materially comply with regulations.

If the report is accepted, MDEDET must within 45 days:

- a) Grant authorisation in respect of all or part of the activity applied for; or
- b) Refuse authorisation in respect of all or part of the activity.

Once MDEDET issues their decision on the proposed project, all registered I&APs on the project database will be notified of the outcome of the decision within 12 calendar days of the Environmental Authorisation having been issued date of the decision. Should anyone (a member of public, registered I&AP or the Applicant) wish to appeal MDEDET's decision, a Notice of Intention to Appeal in terms of Chapter 7 of the EIA Regulations (GN No. 543) in terms of NEMA must be lodged with the Minister of Water and Environmental Affairs within 20 calendar days of the decision being issued and the substantive Appeal must be lodged within 30 days of the Notice.

## 4.5 Need and Desirability

The area where the Funda Mlimi Poultry Abattoir is proposed is within an area where poverty and the rate of unemployment are high. The Comprehensive Rural Development Programme is therefore about enabling rural people to take control of their destiny through the optimal use and management of natural resources. The strategy for the CRDP involves the following:

- 1) Coordinated and integrated broad-based agrarian transformation;
- 2) Strategically increasing rural development; and
- 3) An improved land reform programme.

The Funda Mlimi Poultry Abattoir project is a good value addition agricultural transformation project that will create sustainable jobs for the population in Thembisile Hani Local Municipality. This project will have a multiplier effect with massive benefits for primary poultry producers in a form of market access as well as opportunity to create jobs in the transportation of the produce and an opportunity to create jobs and skill acquisition in the secondary processing sector as well.

This Comprehensive Rural Development Programme is a way in which growth can be speed up in order to expand work, integrated rural development, improve conditions of farm workers, infrastructure development, improving the quality of life of rural households and agriculture.

Poultry meat is much cheaper than other meat products in the market and therefore the demand for poultry is always high.

## 4.6 Impact Assessment

### 4.6.1 Impact assessment methodology

This section outlines the methodology used to assess the significance of the potential environmental impacts associated with the various feasible and reasonable alternatives proposed for the proposed project. For each impact, the EXTENT (spatial scale), MAGNITUDE (size or degree scale) and DURATION (time scale) are described. These criteria are used to ascertain the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. As detailed below, the assessment of impacts is by definition subjective. The first step involves the determination of Extent. The three criteria in **Table** aim to give an indication of how wide-spread the impact is, with “local” being set to a radius 10 km of the candidate site (which is inclusive of Nelspruit), and “site specific” meaning contained to the study site and its immediate surroundings. The spatial influence of an impact is determined first, and the magnitude of the impact is then determined at that scale. Certain of the impacts, for example visual may apply to more than one spatial scale.

**Table 2: Assessment criteria form the evaluation of impacts**

CRITERIA	CATEGORY	DESCRIPTION
Extent or spatial influence of impact	<b>Regional</b>	Beyond 5 km of the proposed activity.
	<b>Local</b>	Within 5 km of the proposed activity.
	<b>Site specific</b>	On site or within 100 m of the site boundary.
Magnitude of impact (at the indicated spatial scale)	<b>High</b>	Natural and/ or social functions and/ or processes are <i>severely</i> altered.
	<b>Medium</b>	Natural and/ or social functions and/ or processes are <i>notably</i> altered.
	<b>Low</b>	Natural and/ or social functions and/ or processes are <i>slightly</i> altered.
	<b>Very Low</b>	Natural and/ or social functions and/ or processes are <i>negligibly</i> altered.
	<b>Zero</b>	Natural and/ or social functions and/ or processes remain <i>unaltered</i> .
Duration of impact	<b>Construction</b>	Up to 2 years.
	<b>Short Term</b>	0-5 years (after construction).
	<b>Medium Term</b>	5-15 years (after construction).
	<b>Long Term</b>	More than 15 years (after construction).

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. The means of arriving at a significance rating is explained in **Table**.

**Table 3: Definition of significance rating**

SIGNIFICANCE RATINGS	LEVEL OF CRITERIA REQUIRED
<b>High</b>	<ul style="list-style-type: none"> <li>• High magnitude with a regional extent and long term duration.</li> <li>• High magnitude with either a regional extent and medium term duration or a local extent and long term duration.</li> <li>• Medium magnitude with a regional extent and long term duration.</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>• High magnitude with a local extent and medium term duration.</li> <li>• High magnitude with a regional extent and short term duration or a site specific extent and long term duration.</li> <li>• High magnitude with either a local extent and short term duration or a site specific extent and medium term duration.</li> <li>• Medium magnitude with any combination of extent and duration except site specific and short term or regional and long term.</li> <li>• Low magnitude with a regional extent and long term duration.</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>• High magnitude with a site specific extent and short term duration.</li> <li>• Medium magnitude with a site specific extent and short term duration.</li> <li>• Low magnitude with any combination of extent and duration except site specific and short term.</li> <li>• Very low magnitude with a regional extent and long term duration.</li> </ul>
<b>Very low</b>	<ul style="list-style-type: none"> <li>• Low magnitude with a site specific extent and short term duration.</li> <li>• Very low magnitude with any combination of extent and duration except regional and long term.</li> </ul>
<b>Neutral</b>	<ul style="list-style-type: none"> <li>• Zero magnitude with any combination of extent and duration.</li> </ul>

Once the significance of an impact has been determined, the PROBABILITY of this impact occurring as well as the CONFIDENCE in the assessment of the impact would be determined using the rating systems outlined in **Table** and **Table** respectively. It is important to note that the significance of an impact should always be considered in conjunction with the

probability of that impact occurring. Lastly, the REVERSIBILITY of the impact is estimated using the rating system outlined in **Table 6**.

**Table 4: Definition of probability rating**

PROBABILITY RATINGS	CRITERIA
<b>Definite</b>	Estimated greater than 95 % chance of the impact occurring.
<b>Highly probable</b>	Estimated 80 to 95 % chance of the impact occurring.
<b>Probable</b>	Estimated 20 to 80 % chance of the impact occurring.
<b>Possible</b>	Estimated 5 to 20 % chance of the impact occurring.
<b>Unlikely</b>	Estimated less than 5 % chance of the impact occurring.

**Table 5: Definition of confidence rating**

CONFIDENCE RATINGS	CRITERIA
<b>Certain</b>	Wealth of information on and sound understanding of the environmental factors potentially influencing the impact.
<b>Sure</b>	Reasonable amount of useful information on and relatively sound understanding of the environmental factors potentially influencing the impact.
<b>Unsure</b>	Limited useful information on and understanding of the environmental factors potentially influencing this impact.

**Table 6: Definition of reversibility rating**

REVERSIBILITY RATINGS	CRITERIA
<b>Irreversible</b>	The activity will lead to an impact that is permanent.
<b>Long Term</b>	The impact is reversible within 2 to 10 years after construction.
<b>Short Term</b>	The impact is reversible within the 2 years of construction.

#### 4.6.2 Mitigation measures

There is a hierarchy of actions which can be undertaken to respond to any proposed project or activity. These cover avoidance, minimisation and compensation. It is possible and considered sought after to enhance the environment by ensuring that positive gains are included in the proposed activity or project. If negative impacts occur then the hierarchy indicates the following steps.



**Impact avoidance:** This step is most effective when applied at an early stage of project planning. It can be achieved by:

- not undertaking certain projects or elements that could result in adverse impacts;
- avoiding areas that are environmentally sensitive; and
- putting in place preventative measures to stop adverse impacts from occurring.

**Impact minimisation:** This step is usually taken during impact identification and prediction to limit or reduce the degree, extent, magnitude, or duration of adverse impacts. It can be achieved by:

- scaling down or relocating the proposal;
- redesigning elements of the project; and
- taking supplementary measures to manage the impacts

**Impact compensation:** This step is usually applied to remedy unavoidable residual adverse impacts. It can be achieved by:

- example, by habitat enhancement;
- restoration of the affected site or environment to its previous state or better; and
- replacement of the same resource values at another location (off-set), for example, by wetland engineering to provide

The mitigation described in the EIAR represents the full range of plausible and pragmatic measures that can be implemented to mitigate identified impacts.

### 4.6.3 Consideration of Cumulative Impacts

Section 24(4) of the National Environmental Management Act requires the consideration of cumulative impacts as part of any environmental assessment process. EIA's have traditionally, however, failed to come to terms with such impacts, largely as a result of the following considerations:

- Cumulative effects may be local, regional or global in scale and dealing with such impacts requires co-ordinated institutional arrangements; and
- EIA's are typically carried out on specific developments, whereas cumulative impacts may result from broader biophysical, social and economic considerations, which typically cannot be addressed at the project level.

In terms of the proposed development the following cumulative impacts have specifically been identified:

- Airborne emissions
- Increased traffic

#### 4.6.4 Construction phase impacts

The construction phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the construction phase of the proposed project. They are inherently temporary in duration, but may have longer lasting effects. The construction phase impacts could potentially include:

*The bio-physical issues identified include:*

- Noise pollution
- Dust pollution
- Surface and ground water contamination
- Potential impact on wetland
- Ecological Impact

*The socio-economic impacts identified include:*

- Job Opportunities (+)

##### 4.6.4.1 Assessment of construction phase impacts

A summary of the construction phase impacts (assessed within the DBAR) is provided below:



**Table 7: Summary of construction impacts**

Ref	Potential impact	Alternative	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Construction Phase</b>								
<b>1</b>	<b>Noise pollution</b>	1	Proposed	No mitigation	Low	Site Specific	Construction	Low
		1	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
		2	Proposed	No mitigation	Low	Site Specific	Construction	Low
		2	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
		3	Proposed	No mitigation	Low	Site Specific	Construction	Low
		3	Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
			No-go alternative	No mitigation	Zero	Site Specific	Construction	Neutral
			No-go alternative	Mitigation	Zero	Site Specific	Construction	Neutral
<b>2</b>	<b>Dust pollution</b>	1	Proposed	No mitigation	Medium	Local	Construction	Low
		1	Proposed	Mitigation	Low	Local	Construction	Very Low
		2	Proposed	No mitigation	Medium	Local	Construction	Low
		2	Proposed	Mitigation	Low	Local	Construction	Very Low
		3	Proposed	No mitigation	Medium	Local	Construction	Low
		3	Proposed	Mitigation	Low	Local	Construction	Very Low
			No-go alternative	No mitigation	Zero	Regional	Construction	Neutral
			No-go alternative	Mitigation	Zero	Regional	Construction	Neutral
<b>3</b>	<b>Surface and groundwater contamination</b>	1	Proposed	No mitigation	High	Local	Medium Term	Medium
		1	Proposed	Mitigation	Medium	Local	Medium Term	Low
		2	Proposed	No mitigation	Medium	Local	Medium Term	Low
		2	Proposed	Mitigation	Low	Local	Medium Term	Very Low
		3	Proposed	No mitigation	Medium	Local	Medium Term	Low
		3	Proposed	Mitigation	Low	Local	Medium Term	Very Low
			No-go alternative	No mitigation	Zero	Local	Medium Term	Neutral
			No-go alternative	Mitigation	Zero	Local	Medium Term	Neutral
<b>4</b>	<b>Impact on wetland</b>	1	Proposed	No mitigation	High	Site Specific	Short Term	Medium
		1	Proposed	Mitigation	Medium	Site Specific	Short Term	Low
		2	Proposed	No mitigation	Low	Site Specific	Short Term	Low
		2	Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		3	Proposed	No mitigation	Medium	Site Specific	Short Term	Low
		3	Proposed	Mitigation	Low	Site Specific	Short Term	Very Low
			No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral
			No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral
<b>5</b>	<b>Ecological Impact</b>	1	Proposed	No mitigation	Medium	Site Specific	Long Term	Medium
		1	Proposed	Mitigation	Low	Site Specific	Long Term	Low
		2	Proposed	No mitigation	Low	Site Specific	Long Term	Low
		2	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		3	Proposed	No mitigation	Low	Site Specific	Long Term	Low
		3	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
			No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
			No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral
<b>6</b>	<b>Job opportunities (+)</b>	1	Proposed	No mitigation	Low	Local	Construction	Low
		1	Proposed	Mitigation	Medium	Local	Construction	Medium
		2	Proposed	No mitigation	Low	Local	Construction	Low
		2	Proposed	Mitigation	Medium	Local	Construction	Medium
		3	Proposed	No mitigation	Low	Local	Construction	Low
		3	Proposed	Mitigation	Medium	Local	Construction	Medium
			No-go alternative	No mitigation	High	Local	Construction	High
			No-go alternative	Mitigation	High	Local	Construction	High

#### 4.6.4.1.1 Noise pollution

##### Description of the environment

The closest neighbours are situated at Gemsbokspruit that is located approximately 1km north of the proposed site. The impact that noise will have on this residential area is relatively small as the noise levels from a distance of 1km would be minimal.

##### Impact assessment

Construction activities, construction vehicles and construction personnel on site would cause an increase in noise in the area, which may impact negatively on adjoining landowners and users. The nearest residential area is however located 1km from the proposed site and this in itself acts as mitigation for any possible noise impact. This impact is therefore considered to be of **low** significance prior to mitigation.

Ref	Potential impact	Alternative Site	Mitigation/	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Construction Phase</b>							
1	Noise pollution	Proposed	No mitigation	Low	Site Specific	Construction	Low
		Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
		Proposed	No mitigation	Low	Site Specific	Construction	Low
		Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
		Proposed	No mitigation	Low	Site Specific	Construction	Low
		Proposed	Mitigation	Very Low	Site Specific	Construction	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Construction	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Construction	Neutral

##### Mitigation measures

Impacts of noise generation during construction in general could be mitigated by ensuring that all regulations relating to noise generation are observed and by restricting work to normal working hours. This potential impact could be readily managed by effective implementation of an EMP. The significance of this impact would be reduced from low to very low by the implementation of these mitigation measures.

##### Cumulative impact

No cumulative impact.

#### 4.6.4.1.2 Dust pollution

##### Description of the environment

Gemsbokspruit is situated approximately 1km north of the proposed site. When the area is cleared for construction, soil will be exposed and the risk of dust pollution will increase.

## Impact Assessment

Construction activities on site could cause an increase in dust and during excessive windy conditions, the dust particles may travel to the nearest residential area. The possibility of this happening is however low. Mitigation measures must however be adhered to in order to minimise the possible impact. The significance of this impact can be reduced from low to very low with the implementation of these mitigation measures.

Ref	Potential impact	Alternative	Site	Mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
2	Dust pollution	1	Proposed	No mitigation	Medium	Local	Construction	Low
		1	Proposed	Mitigation	Low	Local	Construction	Very Low
		2	Proposed	No mitigation	Medium	Local	Construction	Low
		2	Proposed	Mitigation	Low	Local	Construction	Very Low
		3	Proposed	No mitigation	Medium	Local	Construction	Low
		3	Proposed	Mitigation	Low	Local	Construction	Very Low
			No-go alternative	No mitigation	Zero	Regional	Construction	Neutral
			No-go alternative	Mitigation	Zero	Regional	Construction	Neutral

## Cumulative impact

A gravel road is used as access to this proposed site and as this road is in a very good condition, it is being used regularly by other road users. The impact of dust caused by the construction activities as well as dust caused by the vehicles using the road adjacent to the proposed site, could be higher than normal, although the volumes of traffic using that road on a daily basis is minimal.

### 4.5.5.1.3 Surface and Groundwater Contamination

#### Description of the environment

A significant portion of alternative 1 consists of a wetland area and also the entire area west of the proposed site and therefore the possibility of the surface and groundwater being contaminated is high should any development take place within a close proximity of these wetland areas.

#### Impact Assessment

The possibility of surface and groundwater contamination will be high during the construction and operational phase if the abattoir and effluent treatment plant is located near alternative 1 as a significant portion of alternative 1 consists of a wetland. The possibility of surface and groundwater contamination is much less on alternative 2 and 3 and therefore the impact can be regarded as low. During construction and operation the possibility of spillages and pollution must however be minimised.

Ref				mitigation/				
Nr.	Potential impact	Alternative	Site	Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
3	Surface and groundwater contamination	1	Proposed	No mitigation	High	Local	Medium Term	Medium
		1	Proposed	Mitigation	Medium	Local	Medium Term	Low
		2	Proposed	No mitigation	Medium	Local	Medium Term	Low
		2	Proposed	Mitigation	Low	Local	Medium Term	Very Low
		3	Proposed	No mitigation	Medium	Local	Medium Term	Low
		3	Proposed	Mitigation	Low	Local	Medium Term	Very Low
			No-go alternative	No mitigation	Zero	Local	Medium Term	Neutral
			No-go alternative	Mitigation	Zero	Local	Medium Term	Neutral

## Cumulative Impact

No cumulative impact.

### 4.6.4.1.3 Impact on wetland

#### Description of the environment

As mentioned above, there are two wetland areas on the proposed site. The one wetland area is located along the north-eastern boundary of the site and a considerable area of option 1 is taken up by this wetland. The other wetland is located west-south-west of the proposed site and forms part of a stream running from the north-west to the south east of the property.

#### Impact Assessment

Alternative 1 is proposed along the north-eastern boundary of the site where the one wetland is located. Should alternative 1 be considered, the impact on the wetland would be medium without mitigation measures. The other location alternatives are located further from the identified wetland areas and therefore the impact would be low. Mitigation measures must be implemented to minimise the impact during the construction and operational phases. The effluent treatment facility also poses a risk to the wetland areas as any leakage could have a detrimental impact on the wetland system. It is therefore recommended that the effluent treatment facility be located as far as possible from the identified wetland areas.

Ref				mitigation/				
Nr.	Potential impact	Alternative	Site	Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
4	Impact on wetland	1	Proposed	No mitigation	High	Site Specific	Short Term	Medium
		1	Proposed	Mitigation	Medium	Site Specific	Short Term	Low
		2	Proposed	No mitigation	Low	Site Specific	Short Term	Low
		2	Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		3	Proposed	No mitigation	Medium	Site Specific	Short Term	Low
		3	Proposed	Mitigation	Low	Site Specific	Short Term	Very Low
			No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral
			No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral

## Cumulative Impact

The current impact on the wetland is significant with the presence of diapers dumped immediately downstream of the property. Should mitigation measures not be followed during the construction and operational phases, the impact would be even more significant.

### 4.6.4.1.4 Ecological Impact

#### Description of the Environment

The site lies within the Central Sandy Bushveld and includes approximately 51 species of trees, tall shrubs, and woody climbers. Most of these plant species identified are all listed as Least Concern by SANBI (2013). The vegetation found on site at Alternative 1 – 3 includes 39 species on indigenous plants and 11 species of alien plants. There is little or no difference between the options with respect to plant species composition. Option 1 does however include a significant area of wetlands. Within option 1, twenty one species of indigenous plants and 11 species of alien plants were recorded. Eleven indigenous plant species and one species of alien plants were collected at option 2. At option 3, seven species of indigenous plants and one species of alien plants were collected.

#### Impact Assessment

Due to the fact that more indigenous vegetation was collected at alternative 1 and that a significant portion of the site consists of wetland, the ecological impact would be higher than the impact on site alternative 2 and 3. The impact on site alternative 1 is therefore of medium significance before any mitigation measures while the ecological impact on the other site alternatives is low.

Ref	Potential impact	Alternative	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
5	Ecological Impact	1	Proposed	No mitigation	Medium	Site Specific	Long Term	Medium
		1	Proposed	Mitigation	Low	Site Specific	Long Term	Low
		2	Proposed	No mitigation	Low	Site Specific	Long Term	Low
		2	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		3	Proposed	No mitigation	Low	Site Specific	Long Term	Low
		3	Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
			No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
			No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral

## Cumulative Impact

No cumulative impact

#### 4.6.4.1.5 Job opportunities

##### Description of the environment

There will definitely be a positive economic impact during the construction phase as temporary employment will be provided through the installation of structures and infrastructures and there is the potential for local suppliers to also benefit from the proposed project.

##### Impact Assessment

This positive impact will, however, be negated if out-of-town contractors are employed who utilise non-local construction workers and make use of supplies brought in from other provinces (i.e. Gauteng). If local labour and suppliers are utilised during the construction phase this potential **positive** socio-economic impact will go from a **low to medium (+) significance**.

Ref	Nr.	Potential impact	Alternative	Site	Mitigation/	Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
5	Job oppertunities (+)	1	Proposed	No mitigation	Low	Local	Construction	Low		
		1	Proposed	Mitigation	Medium	Local	Construction	Medium		
		2	Proposed	No mitigation	Low	Local	Construction	Low		
		2	Proposed	Mitigation	Medium	Local	Construction	Medium		
		3	Proposed	No mitigation	Low	Local	Construction	Low		
		3	Proposed	Mitigation	Medium	Local	Construction	Medium		
			No-go alternative	No mitigation	High	Local	Construction	High		
			No-go alternative	Mitigation	High	Local	Construction	High		

##### Cumulative impact

Not applicable.

#### 4.6.5 Operational phase impacts

The operational phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the operational phase (approximately > 20 years) of the proposed project and are inherently long-term in duration. The operational phase impacts could potentially include:

*The bio-physical issues identified include:*

- Air pollution
- Dust generation
- Potential surface and groundwater contamination
- Disposal of waste
- Odours
- Noise pollution

*The socio-economic impacts identified include:*

- Increased traffic
- Health and Safety of consumers and workers

**Table 8: Summary of operational impacts**

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Operational</b>							
1	Air pollution	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
2	Dust generation	1 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral
3	Surface and ground water contamination	1 Proposed	No mitigation	High	Local	Long Term	High
		1 Proposed	Mitigation	Medium	Local	Long Term	Medium
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
4	Disposal of waste	1 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		1 Proposed	Mitigation	Low	Local	Medium Term	Low
		2 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		2 Proposed	Mitigation	Low	Local	Medium Term	Low
		3 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		3 Proposed	Mitigation	Low	Local	Medium Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Medium Term	Neutral
5	Odours	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral
6	Noise pollution	1 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral
7	Increased traffic	1 Proposed	No mitigation	Low	Local	Long Term	Low
		1 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		2 Proposed	No mitigation	Low	Local	Long Term	Low
		2 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		3 Proposed	No mitigation	Low	Local	Long Term	Low
		3 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral
8	Health and safety of consumers and co-workers	1 Proposed	No mitigation	High	Regional	Medium Term	High
		1 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		2 Proposed	No mitigation	High	Regional	Medium Term	High
		2 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		3 Proposed	No mitigation	High	Regional	Medium Term	High
		3 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		No-go alternative	No mitigation	Zero	Regional	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Regional	Medium Term	Neutral



#### 4.6.5.1.1 Air pollution

### Description of the environment

During the operational phase, there are some materials that would most likely be burned on site such as:

- Fuel for boilers and steam production;
- Deceased animals;
- Sludge;
- Packaging;
- Unusable skins

### Impact assessment

Air pollution may cause various problems, such as global warming, changes in the ozone layer, and health conditions. The impact with regards to the burning of materials would therefore be medium if not properly mitigated. The significance of the impact with regards to site alternative 1, 2 or 3 would be the same.

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
<b>Operational</b>							
1	Air pollution	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Very Low	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral

### Mitigation measures

- All boilers, steam raising plant and afterburners must use clean fuels free of heavy metals and toxic wastes.
- Combustion equipment and air pollution control equipment should be designed and operated to minimise the production and emission of air pollutants.

### Cumulative impact

No cumulative impact

#### 4.6.5.1.2 Dust generation

##### Description of the environment

There is a dirt road located along the eastern side of the proposed Funda Mlimi poultry abattoir site and vehicles travelling on this road may cause dust.

##### Environmental Impact

The impact of dust generation at the proposed site is possible. With proper mitigation measures the impact can be reduced to be very low. The amount of traffic using the dirt road adjacent to the proposed site is minimal and therefore dust generation during the operational phase will also be minimal.

Ref		No mitigation/					
2	Dust generation	1 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Short Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Short Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Short Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Short Term	Neutral

##### Mitigation measures

- Vehicles traveling on the dirt road adjacent to the proposed site must adhere to speed restrictions in order to minimize the dust generation;

##### Cumulative impact

No cumulative impact

#### 4.6.5.1.3 Potential surface and ground water contamination

##### Description of the environment

As indicated earlier in the report, there are two wetland areas located on the proposed site. One of these areas is located along the north-eastern boundary of the site and a considerable area of option 1 is taken up by this wetland. The other wetland is located west-south-west of the proposed site and forms part of a stream running from the north-west to the south east of the property.

##### Impact assessment

The possibility of surface or groundwater being contaminated is high especially if any construction activities takes place within or near site alternative 1. If site alternative 2 or 3 is

shown to be the preferred alternative, the impact of surface or groundwater contamination would be medium before any mitigation measures are taken into consideration.

Ref Nr.	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
3	Surface and ground water contamination	1 Proposed	No mitigation	High	Local	Long Term	High
		1 Proposed	Mitigation	Medium	Local	Long Term	Medium
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral

### Mitigation measures

- All activities especially the effluent treatment plant must be located as far as possible from any wetland area or watercourse.
- All measures must be taken to prevent pollution of the wetland system. All of these measures have been included within the Environmental Management Plan attached.

### Cumulative impact

The wetland system is already disturbed as litter such as nappies are being thrown into the wetland. This proposed development will have an additional impact on the wetland system if any activities such as spillages of effluent, contaminate the watercourse.

#### 4.6.5.1.4 Waste disposal

### Description of the environment

The effects of litter on the biophysical environment would be small, but could be more significant for the aesthetics of the area if not properly controlled. This potential impact could be readily managed by the provision of suitable refuse disposal facilities and the effective implementation of an EMP. The disposal of waste would be the responsibility of the applicant. The applicant must therefore make sure that all waste is collected and disposed of at a registered waste disposal site.

### Impact Assessment

The significance of this potential impact is considered to be low if the proposed mitigation measures are implemented.

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
4	Disposal of waste	1 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		1 Proposed	Mitigation	Low	Local	Medium Term	Low
		2 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		2 Proposed	Mitigation	Low	Local	Medium Term	Low
		3 Proposed	No mitigation	Medium	Local	Medium Term	Medium
		3 Proposed	Mitigation	Low	Local	Medium Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Medium Term	Neutral

## Mitigation Measures

- Refuse must be placed in the designated skips / bins which must be regularly emptied. These should remain within demarcated areas and should be designed to prevent refuse from being blown out by wind.
- In addition to the waste facilities within the construction site, provision must be made for waste receptacles to be placed at intervals along the work front.
- Littering on site is forbidden and the site shall be cleared of litter at the end of each working day.
- Unless otherwise specified by the Project Manager, remove stored domestic waste to the nearest registered solid waste disposal facility (Piet Retief Landfill site).
- Ensure that solid waste is transported properly, avoiding waste spills en-route.
- No solid waste may be burned on site

## Cumulative Impact

No cumulative impact

### 4.6.5.1.5 Odours

#### Description of the Environment

Potential sources of odours in abattoirs are as follows:

- Waste effluent treatment plant;
- Slaughterhouse;
- Product storage and handling areas;
- Burning of dead stock;
- Animal holding pens;
- Holding of carcasses before disposal;

## Impact Assessment

The above mentioned activities may all be the cause of bad odours at poultry abattoirs. The impact without any mitigation measures would therefore be medium.

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
5	Odours	1 Proposed	No mitigation	Medium	Local	Long Term	Medium
		1 Proposed	Mitigation	Low	Local	Long Term	Low
		2 Proposed	No mitigation	Medium	Local	Long Term	Medium
		2 Proposed	Mitigation	Low	Local	Long Term	Low
		3 Proposed	No mitigation	Medium	Local	Long Term	Medium
		3 Proposed	Mitigation	Low	Local	Long Term	Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral

## Mitigation measures

- Materials should be processed quickly in order to minimise the odour generated from bacterial degradation.
- Equipment and machinery must be kept clean from raw materials and residues.
- Bins for holding raw materials and rendering products need to be covered and grinding, processing and conveying equipment must be completely enclosed.
- Good housekeeping is essential to stop odours from developing

Mitigation measures have been included within the Draft Environmental Management Plan attached.

## Cumulative Impact

No cumulative impact

### 4.6.5.1.6 Noise pollution

#### Description of the environment

In abattoirs noise can be generated from several sources including:

- Animals, when concentrated in groups;
- Processing activities in the slaughterhouse;
- Plant machinery;

## Impact Assessment

The above mentioned may have an impact in noise levels, however the impact will be minimal as indicated below.

Ref			No mitigation/				
Nr.	Potential impact	Site	Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
6	Noise pollution	1 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		1 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		2 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		2 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		3 Proposed	No mitigation	Low	Site Specific	Long Term	Low
		3 Proposed	Mitigation	Very Low	Site Specific	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Site Specific	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Site Specific	Long Term	Neutral

## Mitigation measures

The following mitigation measures must be implemented in order for the impact to be minimised;

- Unless otherwise specified, normal work hours must apply (7h00 – 17h00)
- All processing activities must be enclosed as far as possible.

## Cumulative Impact

No cumulative impact

### 4.6.5.1.7 Increased traffic

## Description of the environment

There is a dirt road leading to the proposed poultry abattoir. This road will be able to accommodate vehicles and trucks travelling to and from the abattoir.

## Impact assessment

The additional traffic created by this abattoir is minimal and therefore the impact will be low.

Ref			No mitigation/				
Nr.	Potential impact	Site	Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
7	Increased traffic	1 Proposed	No mitigation	Low	Local	Long Term	Low
		1 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		2 Proposed	No mitigation	Low	Local	Long Term	Low
		2 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		3 Proposed	No mitigation	Low	Local	Long Term	Low
		3 Proposed	Mitigation	Very Low	Local	Long Term	Very Low
		No-go alternative	No mitigation	Zero	Local	Long Term	Neutral
		No-go alternative	Mitigation	Zero	Local	Long Term	Neutral

## Mitigation measures

No mitigation required.

## Cumulative Impact

No cumulative impact

### 4.6.5.1.8 Health and Safety of consumers and co-workers

#### Description of the environment

In abattoirs there are large potential for the transmission of zoonotic diseases such as Q-fever and anthrax to humans. The birds may also carry various contagious diseases such as toxoplasmosis, aspergillosis etc. It is therefore important for the birds to be inspected after death. The opportunity also exists for workers to transmit pathogenic organisms associated with poultry. Poor handling techniques can also lead to cross contamination of spoilage organisms and reduce the shelf life of the product.

During production, waste materials collect on the surfaces of the building and equipment and therefore provide a media for micro-organisms to grow. These micro-organisms could possibly be transferred to the product by people touching the dirt and then directly touching the product.

#### Impact Assessment

The impact of health and safety on consumers and co-workers is high without any suitable mitigation measures. Mitigation measures must therefore be implemented in order to minimise the health and safety impacts.

Ref	Potential impact	Site	No mitigation/ Mitigation	Magnitude	Extend	Duration	SIGNIFICANCE
8	Health and safety of consumers and co-workers	1 Proposed	No mitigation	High	Regional	Medium Term	High
		1 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		2 Proposed	No mitigation	High	Regional	Medium Term	High
		2 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		3 Proposed	No mitigation	High	Regional	Medium Term	High
		3 Proposed	Mitigation	Medium	Regional	Medium Term	Medium
		No-go alternative	No mitigation	Zero	Regional	Medium Term	Neutral
		No-go alternative	Mitigation	Zero	Regional	Medium Term	Neutral

## Mitigation measures

- All staff must be clean especially hands, fingernails, arms face, hair and other exposed body parts;
- Clean light colored working clothes and headgear must be worn;
- Hands must be washed and disinfected every time work is resumed;
- No person suffering from any disease are allowed to handle or be near meat;
- Wash floor, walls and equipment with water when needed;
- Clean cold stores on a weekly basis;
- All staff must undergo a yearly medical exam.

## Cumulative Impact

No cumulative impact

## 4.7 Assumptions and Limitations

### 4.7.1 Assumptions

In undertaking this investigation and compiling the Basic Assessment Report, the following has been assumed:

- The information provided by the applicant is accurate and unbiased;
- The scope of this investigation is limited to assessing the environmental impacts associated with the proposed hexane storage facility and associated infrastructure.


## 4.8 Opinion with respect to environmental authorisation

Regulations 32(2) (m) of the EIA Regulations requires that the EAP include an opinion as to whether the activity should be authorised or not.

The impacts associated with the proposed project would result in regional impacts (both biophysical and socio-economic) that would negatively affect the area. The significance of these impacts **without mitigation** is deemed to be of medium-high to low significance. However, with implementation of the recommended mitigation measures the significance of the negative impacts would be minimized and would be medium to very low.

Associated with the proposed project are positive socio economic impacts on a regional level. Based on the above, the EAP is of the opinion that the proposed poultry abattoir and associated infrastructure, including alternatives, being applied for be authorised as the benefits outweigh the negative environmental impacts when sufficient mitigation measures





are implemented. The significance of negative impacts can be reduced with effective and appropriate mitigation through a Life-Cycle EMP, as described in this report. If authorised, the implementation of an EMP should be included as a condition of approval.

#### **4.8.1 Way Ahead**

All registered I&APs have been notified of the availability of the DBAR and requested to provide their written comments by 9 October 2013 to Aurecon.

Once the comment period has closed, the Final BAR and all I&AP comments, will be submitted to MDEDET for their review and decision-making.

Once MDEDT has reviewed the Final BAR, they will need to ascertain whether the EIA process undertaken met the legal requirements and whether there is adequate information to make an informed decision. Should the above requirements be met, they will then need to decide on the environmental acceptability of the proposed project. Their decision will be documented in an Environmental Authorisation, which will detail the decision, the reasons therefore, and any related conditions. Following the issuing of the Environmental Authorisation, MDEDT's decision will be communicated by means of a letter to all registered I&APs and the appeal process will commence, during which any party concerned will have the opportunity to appeal the decision to the Minister of Environmental Affairs in terms of NEMA.

# 5 Section E: Consultation with other state departments

Provide a list of all State Departments / Organs of State that have been consulted and registered as interested and affected parties, and to whom draft reports have been submitted for comment. **Proof of submission / delivery of the draft report to all State Department / Organs of State must be attached to this document.**

<b>Department</b>	<b>Department of Water Affairs</b>		
<b>Contact Person</b>	Mr. S. Macevela		
<b>Postal Address</b>	Private Bag X10580, Bronkhorstspuit		
<b>Postal Code</b>	1020	<b>Cell</b>	
<b>Telephone</b>		<b>Fax</b>	
<b>Email</b>	<a href="mailto:macevelas@dwa.gov.za">macevelas@dwa.gov.za</a>		

<b>Department</b>	<b>Department of Economic Development, Environment and Tourism: Pollution and Waste</b>		
<b>Contact Person</b>	Mr. J. Mabuza		
<b>Postal Address</b>	Corner of Rosemead and Aryan road, Witbank		
<b>Postal Code</b>	1034	<b>Cell</b>	
<b>Telephone</b>		<b>Fax</b>	
<b>Email</b>			

<b>Department</b>	<b>Department of Public Works Roads and Transport</b>		
<b>Contact Person</b>	Mr B.P. Majapelo		
<b>Postal Address</b>	Private Bag X11330, Nelspruit		
<b>Postal Code</b>	1200	<b>Cell</b>	
<b>Telephone</b>	013 766 6719	<b>Fax</b>	013 766 8463
<b>Email</b>	<a href="mailto:pmojapelo@mpg.gov.za">pmojapelo@mpg.gov.za</a>		

<b>Department</b>	<b>Thembisile Hani Local Municipality</b>		
<b>Contact Person</b>	Acting Municipal Manager: Mr J. Sindane		
<b>Postal Address</b>	Private Bag X404, Empumalanga		
<b>Postal Code</b>	0458	<b>Cell</b>	-
<b>Telephone</b>		<b>Fax</b>	
<b>Email</b>			

<b>Department</b>	<b>Nkangala District Municipality</b>		
<b>Contact Person</b>	Municipal Manger: Mr CA Habile		
<b>Postal Address</b>	PO Box 1748, Ermelo		
<b>Postal Code</b>	2350	<b>Cell</b>	
<b>Telephone</b>		<b>Fax</b>	
<b>Email</b>			

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<b>Department</b>	<b>DARDLA: Veterinary Services</b>		
<b>Contact Person</b>	Ms. S. Wannenburg		
<b>Postal Address</b>			
<b>Postal Code</b>		<b>Cell</b>	
<b>Telephone</b>		<b>Fax</b>	
<b>Email</b>	swannenburg@hotmail.com		

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