



**DRAFT EIR REPORT FOR THE PROPOSED MATLOSANA
AGRIHUB WHICH IS SITUATED AT PORTION 1 OF TOWNLANDS
424IP IN MATLOSANA LOCAL MUNICIPALITY UNDER DR
KENNETH KAUNDA DISTRICT MUNICIPALITY NORTH WEST
PROVINCE**

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This document presents the Draft Environmental Impact Report for the Matlosana Agrihub Project and the information and assessment presented is based on the information supplied by the 'applicant', Department of Rural Development and Land Reform, environmental baseline data collected during the field surveys conducted between July 2018 and August 2019.	

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1. BACKGROUND

The National Department of Rural Development and Land Reform introduced the implementation of an Agripark per district as part of the response for achieving the national goals of inclusive rural development and integration, employment creation, poverty eradication and inequality reduction. As such a Master Plan was developed for the Dr Kenneth Kaunda District Municipality Agri Park. The Master Plan was described as an operational network of agriculturally driven production, contracts and value adding business interventions. The Agri Park Master Plan indicates that the Agripark will consist of three major components which are the Farmer Production Support Units, an Agrihub and the Rural Urban Market Centre however this study will only focus on the Agrihub which comprises a poultry value chain, large and small stock meat processing plant and office park. In essence an Agri Hub is an agglomeration of agricultural production, packing, processing, storage and marketing of agricultural commodities in a central location such as an economic hub. It is a combination of a working farm and a municipal park that is located at the Urban Edge

The proposed project entailed the following:

- ❑ Construction of a Large and small stock meat processing plant on 50Ha
- ❑ Construction and operation of Poultry Value Chain on 10Ha
- ❑ Office Park on 15Ha

This report will thus focus on the Environmental Impact Assessment for the proposed construction of the three above mentioned proposed activities.

2. LEGISLATIVE REQUIREMENTS

According to Listing Notice 1, and 2 of the EIA Regulations, Government Notice R982 as amended in April 2017, undertaking these activities will result in detrimental impacts to the environment. The Department of Rural Development and Land Reform has therefore appointed DIGES Group to carry out the Environmental Impact Assessment for the proposed works in compliance with the EIA Regulations, Government Notice R982 as amended. As part of the Environmental Impact Assessment (EIA) application for the proposed development, a scoping phase has been undertaken and the Scoping Report and Plan of Study submitted to the Department of Environmental Affairs (DEA) on the 20th of September 2018 was accepted thereby initiating the EIA Phase. The following activities which are listed in the table below applied for the proposed project.

Relevant Government Notice	Activity	Description	Applicability
R983	3	The development and related operation of facilities or infrastructure for the slaughter of animals with a (i) product throughput of poultry exceeding 50 poultry per day; (ii) product throughput of reptiles, game and red meat exceeding 6 units per day;	The large stock meat processing plant is proposed to comprise of a high throughput abattoir (100 cattle or equivalent per day) and meat processing plant, whilst the small stock meat processing plant will comprise of a low throughput poultry abattoir (max 2000 birds per day).
R983	4	The development and related operation of facilities or infrastructure for the concentration of animals in densities that exceed— (i) 20 square metres per large stock unit and more than 500 units per facility;	The poultry value chain will comprise of four (4) x 25 000 conventional broiler houses
R983	8	The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.	The proposed development footprint is in excess of 2000 square meters
R983	9	The development of infrastructure exceeding 1000m in length for the bulk transportation of water or stormwater with an internal diameter of 0,36m or with a peak throughput of 120 litres per second or more	The current water supply line be upgraded to accommodate the required volume going to the AgriHub site.
R983	25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	The development of the AgriHub and the associated processes will require an onsite waste treatment plant which will entail solid separation by screening, primary

			settlement, waste water balancing and ultra-filtration.
R984	15	The clearance of an area of 20 hectares or more of indigenous vegetation	The entire project footprint comprises of 75ha , of which an excess of 20 Ha is indigenous vegetation which will need to be cleared

3. OBJECTIVES OF THE EIA PHASE

The main objectives of this Environmental Impact Assessment report are:

- To ensure that all relevant environmental legal requirements will be met by DRDLR;
- To provide information on the proposed development by describing the nature and scale thereof;
- To define the reasonable and practical alternatives to the proposal;
- To identify the likely beneficial and detrimental consequences of the project;
- To ensure that all environmental consequences are recognized early on and taken into consideration in the design, construction, operation and maintenance of the activity; and
- To determine and recommend a set of environmental conditions and appropriate actions to mitigate any adverse effects on the physical, biological and human environment that will ensure that the study area is developed and operated in an environmentally sound management.

4. ASSUMPTIONS AND LIMITATIONS

A full list of the assumptions made during this EIA and the gaps in knowledge and information are given in the report. A summary of some of the assumptions made are listed below:

- It is assumed that, DRDLR has provided adequate details with regards to the activities including construction and operation activities;
- The information with regards to land ownership is correct and that all the affected land-owners have been identified;
- It is assumed that the specialists' reports are factual and give a correct indication of the environment and how the project activities will impact on these resources; and
- It is also assumed that the public participation carried out is adequate and has identified all the Interested and Affected Parties.

5. PROJECT DESCRIPTION AND LOCATION

The proposed project addressed in this document, involves the construction and operation of the following infrastructure:

- ❑ Large and small stock meet processing plant on 50Ha
- ❑ Poultry Value Chain on 10Ha and
- ❑ Office park on 15Ha

The proposed project is located within Dr Kenneth Kaunda District Municipality of the Northwest Province in the Matlosana Local Municipality, on Portion 1 of Farm Townlands 424IP

ALTERNATIVES

AGRIHUB STRUCTURE

Agrihub are built to DLDR specific standards in terms of their structure and layout for operation and maintenance purposes. The proposed construction and maintenance of Agrihub is therefore expected to be generic with standard specification for such infrastructure.

OPERATION ALTERNATIVES

Operation alternatives were not considered because DLDR has standards and regulations in place for the operation and maintenance of Matlosana Agrihub.

NO-GO ALTERNATIVES

The 'no-go' alternative assumes that the activity does not go ahead implying that the current state does not change. This option would entail that the establishment of the Agrihub does not proceed. The advantages and disadvantages of this alternative will be assessed during this Environmental Impact Assessment Phase.

6. PUBLIC PARTICIPATION

The following PPP activities were carried out in accordance to Section 40-44 of the EIA Regulations as amended:

Site Reconnaissance: A reconnaissance site visit was undertaken at the inception of the Scoping phase. This was done to develop the preliminary understanding of the social context (representative structures; language; communication media, etc.). The outcome of this site visit was that that information to the communities in the receiving environment would best be distributed via leadership structures that are available in these communities, namely traditional leadership and different Landowners Groupings. In addition, local officers to mitigate the issue of language in meetings with the recognized leadership structures that are used for communication.

Stakeholder Identification: I&APs were identified and these I&APs are currently registered on the database. The database of registered stakeholders submitted with this report includes stakeholders from:

- National, Provincial and Local Government;
- Landowners;
- Non-Governmental Organizations; and
- Business, Industry & Tourism.

Notification: To create awareness, use was made of Background Information Document (BID), emails; telephone calls; newspaper advertisements and site notices; visits to different Traditional Authority offices and municipal offices. Visiting Traditional Authority offices and municipal offices also helped the PPP Team to establish the preferred consultation process in the area. Advertisements were also placed in national/provincial and local newspapers notifying them about project and the availability of Draft Scoping Report and to encourage them to comment as well as to attend public meetings that were planned in their area.

Meetings: Different groups of stakeholders were identified and registered as stakeholders. Proximity of locations of different stakeholders also made it difficult to get them to attend the same meetings. Meetings were held at project inception and at the draft scoping phase stage with the landowners, traditional authorities and stakeholder government departments.

Consultation at the EIA Phase: Consultation and/or communication with stakeholders and I&APs is ongoing throughout the study process up until an Environmental Authorization is issued. Any additional information that will be received from stakeholders and that might be requested by stakeholders will be given attention during this EIA Phase. In addition, all comments received during the review of the Draft EIAr will be incorporated into the FEIAr. Registered stakeholders will be notified about the submission of the FEIAr to DEA. Once DEA issues a decision with regards to the FEIAr and the Environmental Management Programme, all registered stakeholders will be informed and advised about the decision and the way forward.

7. ENVIRONMENTAL IMPACT ASSESSMENT

The potential environmental impacts were identified through an internal process based on similar developments and site visits. These included the following:

- Biodiversity impacts;
- Soil/Land Impacts;
- Hydrological impacts;
- Waste impact;
- Air quality impact;
- visual and noise impact;
- Heritage and archeological impacts;
- Tourism related impacts;
- Land use impacts; and
- Socio-economic Impacts

Based on the impacts anticipated, there was need to have an in depth understanding of the status quo of various aspects of the environment and how the development will have an impact on these environmental aspects. Specialists' studies were therefore required to inform the Environmental Impact Assessment Process by considering the specific nature of the environment within which the development is to be undertaken. The results of these studies serve as a basis to identify the potential impacts expected should the development be undertaken. This report includes the specialist impact assessment reports commissioned as part of the environmental process and a summary of the, Ecological, Heritage, and Agriculture engineering report is given below:

- a) **Ecological Assessment:** During the investigation a Waterpan and a squirrel hill were identified these are ecologically sensitive areas and it is recommended that a 6 strands barbed wire should be used to demarcate the water pan and the squirrel hill to prevent people from accessing them. Overallly however the site for the proposed Agrihub has been modified and is of Low ecological function and sensitivity. As a result, disturbance of the vegetation will not result in a net loss of species within this area and it is recommended from an ecological point of view that the proposed development can proceed.

It is advisable to rehabilitate the area within the project site post construction. This should be done using indigenous vegetation.

- b) **Heritage:** The survey identified a relatively recent past livestock kraal (enclosure) and dilapidated structure constructed as temporary shelter for cattle header. In conclusion there are no written documents on the previous archaeological investigations of the listed farm from the South African Heritage Resources database. The objective of the AIA is to limit primary and

secondary impacts on archaeological and cultural heritage sites in the path of the proposed development. In the event of any unexpected heritage feature being encountered during construction phase of the agrihub relevant heritage authorities should be informed. Based on the desktop heritage assessment undertaken for this development, it is clear that the area has not been studied archaeologically and historically in much detail, although more is known about the cultural heritage of the wider geographical area and the cultural heritage of the development area has to be interpreted within this context. The study did not identify Stone Age and Iron Age sites, features or objects of cultural and heritage significance, but it is possible that these might be present. The presence of graves is always a distinct possibility when farmsteads and labourer structures are present. Sometime the graves are unmarked or only low, stone parked features. No further studies / Mitigations are recommended given the fact that within the proposed development footprint and its surrounding there is no archaeological or place of historical significance that will be impacted by the proposed development. From an archaeological and cultural heritage resources perspective, there are no objections to the proposed project and we recommend to the Provincial Heritage Resource Agency, South African Heritage Resource Agency to approve the project as planned

- c) **Agricultural Engineering report:** The proposed development is not in conflict with the surrounding neighbourhood because the site is surrounded by vacant land and is located outside the Matlosana Central Business District and residential areas. This means that it does not pose any threats or disturbance to the surrounding or nearby land use/practice. Furthermore, the proposed development seeks to promote and optimise sustainable land development, economic growth. The proposed development is not in conflict with the surrounding neighbourhood but rather the current land use on adjoining properties compliment the proposed development. It is envisaged that the existing transport system (road, air and rail transport system) which border the site will enable easy transportation of produce. Accessibility and mobility in this regard will not be a constrain. The size/extent of the property is sufficient enough for the proposed development, considering the nature of the proposed development, it is practical that for it to be a success, necessary and appropriate procedures need to be taken into consideration

8. ENVIRONMENTAL IMPACT ASSESSMENT PHASE

Based on the outcome of this assessment, the EAP has to recommend to the Department of Rural Development and Land Reform whether the project should be approved and the conditions and/ stipulations of such approval. The recommendations are based on:

- The information provided by the applicant with regards to the project activities;
- Legislative requirements;
- Assumptions and limitations during the assessment;
- The specialists input;
- Geographic Information Systems;
- The public input, i.e., stakeholders and Interested and affected parties; and
- The EAP's past experience.

9. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

An Environmental Management Programme (EMPr) is a plan that seeks to achieve a required end state and describes how activities that have or could have an adverse impact on the environment, will be mitigated, controlled and monitored. An EMPr was compiled as per Appendix 4 of the EIA Regulations Government Notice R982 as amended and it discusses the impacts that are expected during the construction phase, operational phase and the mitigation measures that have been recommended to minimize the impacts. This document also identifies corrective actions if monitoring indicates that the performance requirements have not been met and notifies the responsible parties to undertake the actions required. Integrated Environmental Management (IEM) principles influenced the development of these measures, which are aimed at achieving broadly acceptable standards at minimum costs.

10. CONCLUSION AND RECOMMENDATIONS

The following recommendations must be included within the authorisation issued;

- ❑ The stipulations and provisions of the attached Environmental Management Programme be conveyed to and familiarised by the contractor and workers responsible for construction;
- ❑ An Environmental Control Officer (ECO) must be appointed to oversee the construction process and ensure compliance with conditions of approval;
- ❑ Demarcate sensitive areas and no-go areas with danger tape to prevent disturbance during construction;

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LIST OF ABBREVIATIONS

DEA	Department of Environmental Affairs
DRDLR	Department of Rural Development and Land Reform
DSR	Draft Scoping Report
DWA	Department of Water Affairs
DWS	Department of Water and Sanitation
EA	Environmental Authorization
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Programme
HA	Hectares
IAP	Interested and Affected Parties
IEM	Integrated Environmental Management
LED	Local Economic Development
NBA	National Biodiversity Assessment
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
PP	Public Participation
PPP	Public Participation Process
SAHRA	South African Heritage and Resources Agency

DEFINITIONS

- 1 **Affected environment:** Those parts of the socio-economic and biophysical environment impacted on by the development.
- 2 **Alien Vegetation:** Alien vegetation is defined as undesirable plant growth which shall include, but not be limited to; all declared category 1, 2 and 3 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.
- 3 **Alternatives:** A possible course of action, in place of another that would meet the same purpose and need (of proposal). Alternatives can refer to any of the following but are not limited hereto: alternative sites for development, alternative layouts or alternative designs, alternative processes and materials. In Integrated Environmental Management, the so-called "no action" alternative may also require investigation in certain circumstances;
- 4 **Assessment:** The process of collecting, organizing, analyzing, interpreting and communicating data that is relevant to some decision.
- 5 **Bio-regional plan:** inform land-use planning and decision-making by a range of sectors whose policies and decisions impact on biodiversity.
- 6 **Conservation Areas:** are areas of land not formally protected by law but informally protected by the current owners and users; and managed at least partly for biodiversity conservation.
- 7 **Critical Biodiversity Areas (CBA1):** are areas that are
 - Irreplaceable;
 - required to meet biodiversity pattern and/or sites that are required to meet each ecological process targets; and
 - natural and near-natural sites including some degraded areas.
- 8 **Critical Biodiversity Areas (CBA2):** these are:
 - Best design selected sites;
 - Areas selected to meet biodiversity pattern and/or sites that are required to meet each ecological process targets;
 - Alternative sites may be available to meet targets; and
 - natural and near-natural sites including some degraded areas, including areas modified by agriculture.
- 9 **Development:** The act of altering or modifying resources to obtain potential benefits.
- 10 **Ecological Support Areas (ESA1):** are areas that are natural, near natural and degraded areas supporting CBAs by maintaining the ecological processes on which CBAs depend.

- 11 **Ecological Support Areas (ESA2):** Areas with no natural habitat that is important for supporting ecological processes.
- 12 **Environment:** The external circumstances, conditions and objects that affect the existence and development of individual, organism or group. These circumstances include biophysical, social, economic, historical, cultural and political aspects.
- 13 **Environment Authorization:** A written statement from the Department of Environmental Affairs that records its approval of a planned undertaking and the conditions of such an approval.
- 14 **Environmental impact:** The degree of change in environmental components resulting from the effects of an activity on the environment, whether desirable or undesirable. Impacts may be the direct consequence of an organization's activities or may be indirectly caused by them.
- 15 **Environmental Impact Assessment:** A process of examining the environmental effects of a proposed development.
- 16 **Environmental issue:** A concern felt by one or more parties about some existing, potential or perceived environmental impact.
- 17 **Environmentally Sensitive Area:** An area designated in regional or local land use plans, or by a local, regional, provincial or national government body as being sensitive to disturbance or identified by an applicant as being sensitive for some reason.
- 18 **Erosion:** The process by which material, such as rock or soil, is worn away or removed by wind or water.
- 19 **Evaluation:** The process of weighing information, the act of making value judgments or ascribing values to data to reach a decision;
- 20 **Hazardous substance:** Any substance that is of risk to health and safety, property or the environment. Hazardous substances have been classified under the SANS 10228-B-The identification and Classification of Dangerous Goods and Substances'.
- 21 **Heritage Site:** A site that contains either archaeological artefacts, graves, buildings older than 60 years, meteorological or geological fossils, etc.
- 22 **Indigenous Vegetation:** refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years;
- 23 **Integrated environmental management (IEM):** is a process of integrating environmental, Socio-economic and cultural factors in decision making to promote sustainable development. Principles underlying IEM provide for a democratic, participatory, holistic, sustainable, equitable and accountable approach.
- 24 **Landowner:** The individual or company that owns the land through which the servitude crosses.

- 25 **Mitigation:** the elimination, reduction or control of the adverse environmental effects of the project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.
- 26 **Monitoring Programme:** The program for observing the potential environmental effects of a project, resolving specific outstanding environmental issues, and determining the action required based on the result of these activities.
- 27 **National protected area** means-
- a) a special nature reserve;
 - b) a national park; or
 - c) a nature reserve or protected environment-
 - (i) managed by a national organ of state; or (ii) which falls under the jurisdiction of the Minister for any other reason.
- 28 **Nature reserve** means-
- (a) an area declared, or regarded as having been declared, in terms of section 23 of the National Environmental Management: Protected Areas Act, 2003, as a nature reserve; or
 - (b) an area which before or after the commencement of this Act was or is declared or designated in terms of provincial legislation for a purpose for which that area could in terms of section 23(2) of the National Environmental Management: Protected Areas Act, 2003, be declared as a nature reserve.
- 29 **No Natural Areas Remaining:** are areas without intact habitat remaining.
- 30 **Other Natural Areas:** are areas that still contain natural habitat but that are not required to meet biodiversity targets.
- 31 **Protected Area:** Protected environment means -
- (a) an area declared, or regarded as having been declared, in terms of section 28 of the National Environmental Management: Protected Areas Act, 2003, as a protected environment;
 - (b) an area which before or after the commencement of this Act was or is declared or designated in terms of provincial legislation for a purpose for which that area could in terms of section 28(2) of the National Environmental Management: Protected Areas Act, 2003, be declared as a protected environment; or
 - (c) an area which was a lake area in terms of the Lake Areas Development Act, 1975 (Act No. 39 of 1975), immediately before the repeal of that Act by section 90(1) of the National Environmental Management: Protected Areas Act, 2003,
- 32 **Scoping:** The process of determining the key issues to be addressed in an environmental assessment. The main purpose of scoping is to focus the environmental assessment on a

manageable number of important questions. Scoping should also ensure that only significant issues and reasonable alternatives are examined;

- 33 **Stakeholder:** A stakeholder is any group or individual that may be potentially affected by a proposed project. Stakeholders typically include elected officials, government and non-government agencies, environmental and other special interest groups, developers, educators, landowners and members of the public.
- 34 **Study Area:** The area within the spatial boundaries of the scope of the environmental and socio-economic effects assessment.
- 35 **Water body:** Means a body containing water and includes dams and wetlands, whether ephemeral or permanent.
- 36 **Water course:** Means any river, stream and natural drainage channel whether carrying water or not.

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1. INTRODUCTION

1.1 INTRODUCTION

The National Department of Rural Development and Land Reform introduced the implementation of an Agripark per district as part of the response for achieving the national goals of inclusive rural development and integration, employment creation, poverty eradication and inequality reduction. As such a Master Plan was developed for the Dr Kenneth Kaunda District Municipality Agri Park. The Master Plan was described as an operational network of agriculturally driven production, contracts and value adding business interventions. The Agri Park Master Plan indicates that the Agripark will consist of three major components which are the Farmer Production Support Units, an Agrihub and the Rural Urban Market Centre, however this study will only focus on the Agrihub which comprises a poultry value chain, large and small stock meat processing plant office park. In essence an Agri Hub is an agglomeration of agricultural production, packing, processing, storage and marketing of agricultural commodities in a central location such as an economic hub. It is a combination of a working farm and a municipal park that is located at the Urban Edge

The proposed activities to be undertaken (together with the infrastructure to be provided) are listed as having detrimental impacts on the environment and as such requires that an Environmental Impact Assessment be undertaken prior to the commencement of the project. Department of Rural Development and Land Reform has therefore appointed DIGES Group (herein after referred to as DIGES) to lodge an application with the Department of Environmental Affairs (DEA) for the proposed development in terms of Section 24 and 24D of the National Environmental Management Act (Act No.107 of 1998). The EIA will be undertaken to comply with the Environmental Impact Assessment Regulations (Government Notice R982) of December 2014 as amended on the 7th of April 2017.

1.2 DETAILS OF ENVIRONMENTAL IMPACT ASSESSMENT PRACTITIONER (EAP)

Section 13 of EIA Regulations, Government Notice No. R982 as amended clearly indicates that an Environment Assessment Practitioner (EAP) should be independent and have expertise in conducting Environmental Impact Assessments, including knowledge of the Act, and any guidelines that have relevance to the proposed activity.

DIGES Group is a black owned BBB-EE consultancy company established in 2004 that offers services in the geo-environmental sector. The company has successfully completed many Environmental Impact

Assessments for different developments.

Declaration of Independence

DIGES Group is an independent consultant and hereby declare that it does not have any financial or other vested interest in the undertaking of the proposed activity, other than remuneration for the work performed in terms of the National Environmental Management Act (Act No. 107 of 1998). In addition, remuneration for services provided by DIGES is not subjected to or based on the approval of the proposed development by the Competent Authority.

The details for the project EAP and compiler of this report are given below as per Section 3(1) (a) of Appendix 3 of the EIA Regulations R982 as amended.

Tafadzwa Kelvin Dzimbahete (Cert. Sci. Nat)

- *BSc (Hons) Environmental Science and Technology (CUT, 2007), Post Graduate Diploma in Management (NWU, 2013), Certificate EIA (CEM-NWU, 2018), MSc Water Sciences, NWU, Current*

A dedicated and passionate Environmentalist with valuable theoretical and experiential acumen in the areas of environmental conservation and administration. I have 12 years' experience gained through direct involvement in a number of conservation initiatives. Currently a Senior Environmental Consultant of DIGES Group responsible for leading, administrating and completing assessments on Environmental Impact Assessments, as well as overseeing studies, interpreting technical reports and appendices regarding the same.

I leverage academic skills gained through an honours level degree in Environmental Science & Technology and Post Graduate Diploma in Management and Certificates in Project Management and EIA; alongside the proficient ability to actively and valuably participate in the development, design and implementation of environmental / conservation management policies and consultation initiatives; thereby supporting the highest standards of Environmental Management and Sustainable Development, in all undertakings.

Reference is made to the CV attached in Appendix A.

1.3 BACKGROUND TO EIA STUDY

An Environmental Impact Assessment (EIA) is a proactive and systematic process where both positive and negative potential environmental impacts associated with certain activities are assessed. Every Environmental Impact Assessment project has two objectives namely, process and content objectives. The process objectives are to ensure that the process is open, transparent and inclusive, supplies stakeholders with sufficient information, affords them ample opportunity to contribute and makes them

feel that their contributions are valued. The content objectives of the project are in the form of “hard” information: facts based on scientific and technical study, statistics or technical data.

Section 24(4) of NEMA prescribes that the procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, with respect to every application for environmental authorisation, ensure that the general objectives of Integrated Environmental Management (IEM) are considered. The EIA should include an investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity. Section 24(2) indicates that the Minister can publish a list of activities that may not commence without an environmental authorization. Three listing notices, Listing Notice 1, 2 and 3 were published in 2014 and amended on the 7th of April 2017 determine whether a Basic Assessment (Listing Notice 1 and 3) or Scoping and Environmental Impact Assessment (Listing Notice 2) should be undertaken. **Figure 1-2** overleaf shows the tasks to be performed during the scoping and EIA which are dictated by the Regulations published in Government Notice R982 as amended under Sections 24 (5) and 44 of the National Environmental Management Act (Act No. 107 of 1998).

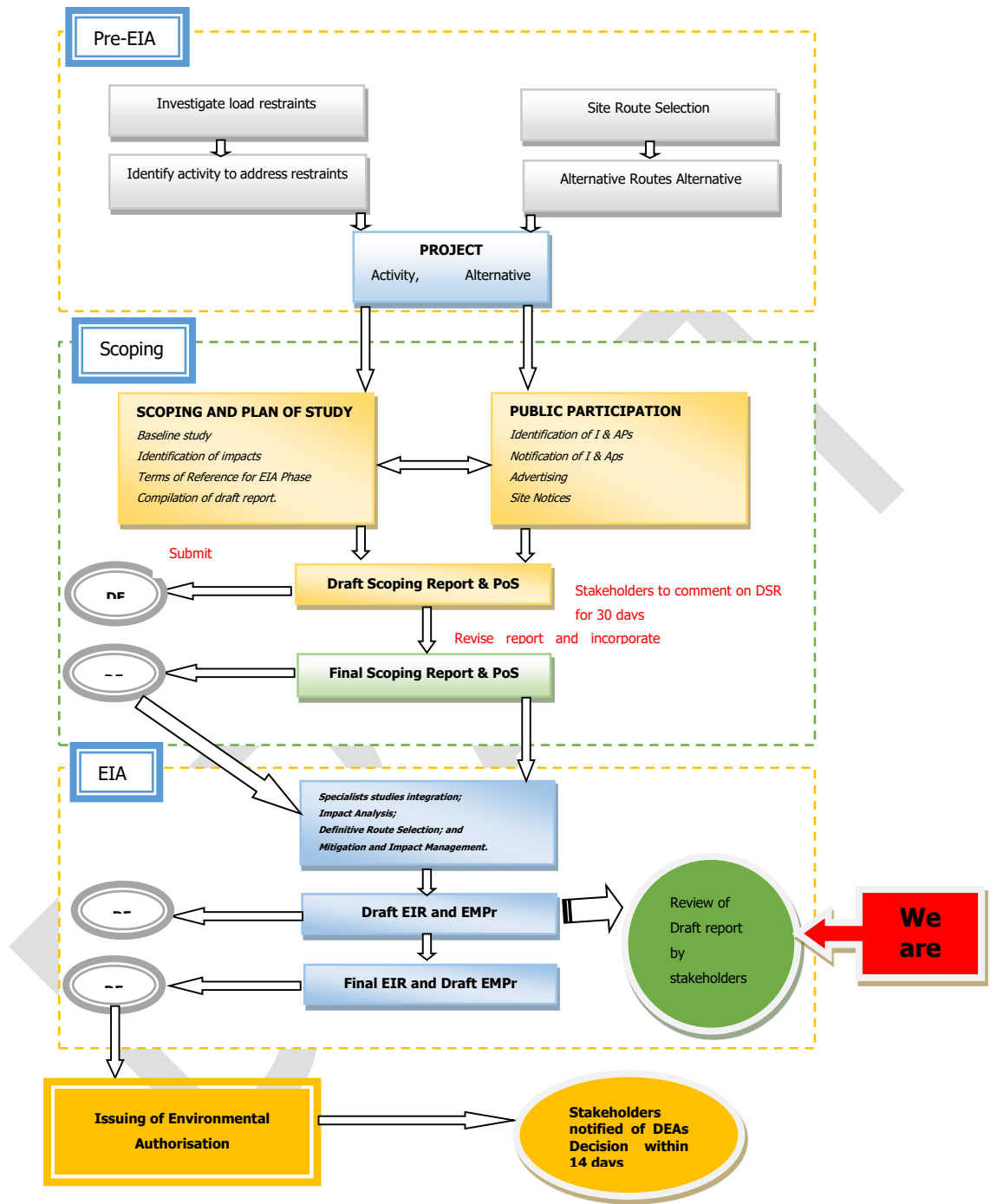


Figure 1-2: Scoping and EIA Phases

The following phases have been undertaken for this assessment:

1.3.1 SCREENING PHASE

Screening is the first stage in the EIA process whereby the EAP and the applicant determines if an EIA is required for the project in terms of the EIA Regulations Government Notice R982 and its associated Listings. The screening process was carried out and it determined that based on the project activities, a scoping and EIA process was required as the construction of the Agrihub which comprises an Office Park and Cattle feedlot is listed in Listing Notice 2 as amended in April 2017

1.3.2 SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT PHASE

The second stage of the EIA process is the scoping phase which entails a baseline study and preliminary site survey to ascertain the biophysical conditions of the site and identify the anticipated negative and positive impacts of the development in relation to the environment. This phase also includes public and stakeholder participation. Guidance in relation to the scoping phase is provided in Regulation 21 of the EIA Regulations, Government Notice R982 of 2014 as amended.

During the Scoping Phase, the following general stages were followed as a basis for this assessment:

- a) **Determination of the Current Environmental Baseline Conditions** through review of existing information as well as field surveys to establish site specific issues and sensitivity. Literature relating to the project area was reviewed to comprehend the status quo of the project area and its surroundings. Topographic and thematic maps outlining the project area were also utilized. DIGES conducted site inspection July 2018 to August 2018. The site inspection undertaken was sort of reconnaissance field survey where the different alternatives were briefly assessed. During the field surveys, most of the project area was covered with a vehicle where access routes existed. Photographs were taken to document the existing environmental conditions on site.
- b) **Determination of Policy, Legal and Administrative Framework and requirements** through identification of relevant legal documents, guidelines and planning procedures. These have been reviewed to ensure that necessary measures are included in the design and implementation of the project. In particular, those measures which could have an implication on environmental resources were identified. Reference is made to Section 2 of this report.
- c) **Public Participation:** An active approach was taken to identify potential Interested and Affected Parties. The proposed site was mapped and affected area identified and an on-site

survey was carried out to identify the land owner and their contact details. However in this case the land owner is an organ of state. Notification letters, Background Information Documents (BID) and newspaper adverts were written in English. All project information and public meetings were then carried out using the native languages of the different areas.

The project was advertised in the Klerksdorp Record On the 4th of July 2018. Public meetings were then held from the 18th of July to the 4th of August for the Background Information Document, newspaper adverts and Comments and Response report respectively. .

d) Acceptance: The final scoping report and Plan of Study submitted to DEA on the 29 of March 2019 was accepted on the 13 of May 2019. Reference is made to DEA acceptance letter attached in **Appendix**

1.3.3 ENVIRONMENTAL IMPACT PHASE

The third phase entails the undertaking of an EIA as outlined in the Plan of Study included in the Final Scoping Report. As a means of determining the significance of the various impacts that can or may be associated with the construction of Matlosana Agrihub, a series of assessment criteria are used for each impact. Based on the above description of the process, the main objectives of this EIA are thus:

- To ensure that all relevant environmental legal requirements will be met by DRDLR;
- To provide information on the proposed development by describing the nature and scale thereof;
- To describe the affected environment;
- To inform the public about the proposal and identify the main stakeholders and their concerns and values;
- To define the reasonable and practical alternatives to the proposal;
- To identify the likely beneficial and detrimental consequences of the project;
- To ensure that all environmental consequences are recognized early on and taken into consideration in the design, construction, operation and maintenance of the activity; and
- To determine and recommend a set of environmental conditions and appropriate actions to mitigate any adverse effects on the physical, biological and human environment that will ensure that the study area is developed and operated in an environmentally sound management.

This report details the impact assessment that has been carried out and it has been guided by the following criteria:

- **Assessment Criteria for Impacts:** As a means of determining the significance of the various impacts that can or may be associated with the construction and operation of an Agrihub, a series of assessment criteria were used for each impact. These criteria included an examination of the nature, extent, duration, intensity and probability of the impact occurring, and assessing whether the impact will be positive or negative for the biophysical and social environments at the site and surrounding areas.
- **Environmental Sensitivity Map:** An environmental sensitivity map was used to indicate the impacts identified as a result of the proposed development.
- **Maximization of Positive Impacts:** The philosophy followed focused on maximizing the benefits to the local environment
- **Specialists Integration:** DIGES collated information from all specialists and summarized it in this report.
- **Identification of Mitigation Measures:** The mitigatory measures recommended describe possible actions for the reduction of the significant negative environmental impacts identified in the assessment. The philosophy of identifying mitigation measures for negative impacts was based on the reduction of the impact at source, the management of the impact through monitoring and control, and the involvement of the I&APs in consideration of mitigating measures, where appropriate.
- **Environmental Management Programme:** Based on the information collected during the EIA, a project specific Environmental Management Programme (EMPr) was developed. The plan provides guidelines for the planning, construction, operation, maintenance of the proposed development, as well as a holistic management and monitoring plan for the entire project. Recommendations were given with regards to the responsible parties for the implementation of the EMPr.

1.4 STRUCTURE AND CONTENT OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT

1.4.1 STRUCTURE OF THE REPORT

To address the information required as set in Appendix 3 and to present it in a clear manner, the following structure or layout outlined below was used:

Section 1: Background – deals with background of the project including the objectives of this EIA and the process.

Section 2: Administrative, Legal and Policy Requirements – To facilitate the Environmental Impact Assessment and understand the significance of the constructing and maintain the proposed development in the area, all relevant requirements from applicable laws, and provincial and local regulations are discussed and their relevance ascertained.

Section 3: Project description – locality, and technical details of the project, as well as need and desirability of the project.

Section 4: The receiving environment – a summary of the environment that will be potentially affected by the project activities.

Section 5: Public Consultation – a summary of the consultation process undertaken with stakeholders and Interested and Affected Parties (I&AP's), and the issues identified during this process.

Section 6: Alternatives evaluation – A description of the alternatives identified which are being assessed.

Section 7: Overview of specialist studies – a summary of the avifauna, air quality, heritage, ecological, tourism, soil and land capability, visual and wetland studies undertaken.

Section 8: Potential impacts and Determination of Significance – An assessment of residual socio-economic and bio-physical impacts, expected during construction and operation of the agreed upon route.

Section 9: Conclusions and recommendations

Section 10: References

Appendices: Appendices relating to Environmental Impact Assessment Phase are collated at the back of the document.

1.4.2 CONTENT OF THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR)

The Environmental Impact Assessment Report was compiled as per the guidelines indicated in Appendix 3 of the EIA Regulations, Government Notice R982 as amended. **Table 1-1** summarizes the information required and identifies where in the report the information can be found:

Table 1-1: Environmental Impact Assessment Report

Information as Required in Appendix 3 of EIA Regulations R982 as amended	Relevant Section in the Report
3(1) (a)(iii) details of the EAP who prepared the report; and	Page i
3(1) (a) (iv) details of the expertise of the EAP, including a curriculum vitae;	Section 1.2, Appendix A
3(1)(b) the location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report including: (i) the 21-digit Surveyor General code of each cadastral land parcel;	Section 3.2.3 and Appendix D-1
(ii) where available, the physical address and farm name;	Section 3.3
(iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	N/A
3(1) (c) a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is— (i) a linear activity, a description and co-ordinates of the corridor in which the proposed activity or activities is to be undertaken; (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix D-1
3(1) (d) a description of the proposed activity, including (i) all listed and specified activities triggered and being applied for; (ii) a description of the associated structures and infrastructure related to the development;	Section 2.2.1
3(1)(e) a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context;	Section 2
3(1) (f) a motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred [location] development footprint within the approved site as contemplated in the accepted scoping report;	Section 3.1
3(1)(g) a motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report;	Section 4

Information as Required in Appendix 3 of EIA Regulations R982 as amended	Relevant Section in the Report
3(1) (h) a full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including:	Section 4
(i) details of the development footprint alternatives considered;	
(ii) details of the public participation process undertaken at each of the sites in terms of regulation 41 of these Regulations, including copies of the supporting documents and inputs;	Section 7
(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Section 7 and Appendix F-3
(iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 5
(v) the impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts— (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated.	Section 8.
(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;	Section 8
(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 4.1.8
(viii) the possible mitigation measures that could be applied and level of residual risk;	Section 8.2
(ix) if no alternative development [location] footprints for the activity were investigated, the motivation for not considering such; and	Section 4.2
(x) a concluding statement indicating the location of the preferred alternative development [location] footprint within the approved site as contemplated in the accepted scoping report;	Section 4.1.6
3(1) (i) a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including—	Section 8
(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and	Section 8

Information as Required in Appendix 3 of EIA Regulations R982 as amended	Relevant Section in the Report
(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;	Section 8.1
3(1)(j) an assessment of each identified potentially significant impact and risk, including—	Section 8.2
(i) cumulative impacts;	Section 8.2
(ii) the nature, significance and consequences of the impact and risk;	Section 8.2
(iii) the extent and duration of the impact and risk;	Section 8.2
(iv) the probability of the impact and risk occurring;	Section 8.2
(v) the degree to which the impact and risk can be reversed;	Section 8.2
(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and	Section 8.2
(vii) the degree to which the impact and risk can be mitigated;	Section 8
3(1)(k) where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;	Section 6
3(1)(l) an environmental impact statement which contains—	Section 9.1,
(i) a summary of the key findings of the environmental impact assessment;	
(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and	
(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	
3(1)(m) based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;	Section 9.1,
3(1)(n) the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;	Section 9.1,
3(1)(o) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;	Section 9.1,
3(1)(p) a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Section 1.5
3(1)(q) a reasoned opinion as to whether the proposed 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;	Section 9.1

Information as Required in Appendix 3 of EIA Regulations R982 as amended	Relevant Section in the Report
3(1)(r) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;	
3(1)(s) an undertaking under oath or affirmation by the EAP in relation to	Section 9
(i) the correctness of the information provided in the reports;	
(ii) the inclusion of comments and inputs from stakeholders and I&APs;	Appendix F-3 and F-4
(iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and	
(iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Appendix F-3
3(1)(t) where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;	n/a
3(1)(u) an indication of any deviation from the approved scoping report, including the plan of study, including—	
(i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and	n/a
(ii) a motivation for the deviation;	n/a
3(1)(v) any specific information that may be required by the competent authority; and	
3(1)(w) any other matters required in terms of section 24(4)(a) and (b) of the Act.	

1.5 ASSUMPTIONS AND LIMITATIONS

The following assumptions have been made during this study:

- ✓ It is assumed that the Applicant (DRDLR) has provided adequate details with regards to the activities to be carried out and the processes to be followed during the construction and operation phase;
- ✓ This study was carried out with the information available to the EAP at the time of executing the study, within the available timeframe and budget.
- ✓ The field assessment was carried out in the winter season hence it does not consider seasonal variations;
- ✓ It is assumed that the specialists' reports are factual and give a correct indication of the environment and how the project activities will impact on these resources;
- ✓ It is also assumed that the public participation carried out is adequate and has identified all the Interested and Affected Parties;

- ✓ An exact commencement date for the construction phase of Agrihub is unknown. It is assumed that construction will commence after public participation and an Environmental Authorization has been issued;

2. ADMINISTRATIVE, LEGAL AND POLICY REQUIREMENTS

Environmental laws are formulated for realizing sustainable development strategy, preventing adverse impacts on the environment from implementation of plans and construction projects, and promoting coordinative development of the economy, society and environment. Most of South Africa's environmental law and principles are regulated by legislation with the Constitution of the Republic of South Africa and the National Environmental Management Act (NEMA) being the cornerstone of environmental law. The following laws, principles and regulations have also been formulated to promote environmental sustainability including the interaction of the living and non-living environment which also have relevance to this project are discussed below:

2.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA

Section 24 of the Constitution of South Africa guarantees basic human rights and provides guiding principles for society. The environmental rights in the constitution states:

"Everyone has the right –

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

Based on this section, there is need to ascertain if the construction and operation of the 400kV power line will result in harmful social, economic and biophysical environment after mitigation measures have been implemented.

The Bill of Rights in Chapter 2 of the Constitution entrenches the right to information, the right to freedom of expression, the right to participate in political activity, the right to administrative justice and fundamental science, cultural, legal, economic and environmental rights. In addition, the Constitution requires all legislature to facilitate public involvement in the legislative and other policy processes. Citizens have the right to engage in public initiatives and processes on an ongoing basis. On the basis of the Bill

of Rights, the public will have access to all information developed and compiled during the Environmental Impact Assessment process.

2.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998)

The National Environmental Management Act (NEMA) aims to improve the quality of environmental decision-making by setting out principles for environmental management that apply to all government departments and organisations that may affect the environment. NEMA also creates a framework for facilitating the role of civil society in environmental governance (see below).

The Principles of National Environmental Management state that - (DEAT 1998b)

- Environmental management must place people and their needs at the forefront of its concern.
- Development must be socially, environmentally and economically sustainable.
- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated.
- Environmental justice must be pursued.
- Equitable Services Access to environmental resources to meet basic human needs and ensure human well-being must be pursued.
- Responsibility for the environmental health and safety consequences of a project or activity must exist throughout its life cycle.
- The participation of all interested and affected parties in environmental governance must be promoted.
- Decisions must consider the interests; needs and values of all interested and affected parties.
- The social, economic and environmental impacts of activities, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
- Decisions must be taken in an open and transparent manner, and Services Access to information must be provided in accordance with the law.
- The environment is held in public trust for the people, the beneficial use of which environmental resources must serve the public interest and the environment must be protected as the people's common heritage.
- The costs of remedying pollution, environmental degradation and consequent adverse health effects must be paid for by those responsible for harming the environment.
- Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

2.2.1 ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS

The Environmental Impact Assessment Regulations emanate from Section 24 (5) and 44 of NEMA and they set out the processes that must be followed to obtain an Environmental Authorization. Listing Notice 1 and Listing Notice 2 provide lists of activities that require a Basic Assessment and EIA respectively whilst Listing Notice 3 lists activities that would require authorization if carried out in a specified geographical area. The EIA Regulations and listings have been amended as of the 7th of April 2017. The proposed activities that DRDLR intends to undertake are listed in Listing Notice 1, 2 and 3 which are detailed below:

Table 2-1: List of Activities for the Matlosana Agrihub works

Relevant Government Notice	Activity	Description	Applicability
R983	3	The development and related operation of facilities or infrastructure for the slaughter of animals with a (i) product throughput of poultry exceeding 50 poultry per day; (ii) product throughput of reptiles, game and red meat exceeding 6 units per day;	The large stock meat processing plant is proposed to comprise of a high throughput abattoir (100 cattle or equivalent per day) and meat processing plant, whilst the small stock meat processing plant will comprise of a low throughput poultry abattoir (max 2000 birds per day).
R983	4	The development and related operation of facilities or infrastructure for the concentration of animals in densities that exceed— (i) 20 square metres per large stock unit and more than 500 units per facility;	The poultry value chain will comprise of four (4) x 25 000 conventional broiler houses

R983	8	The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.	The proposed development footprint is in excess of 2000 square meters
R983	9	The development of infrastructure exceeding 1000m in length for the bulk transportation of water or stormwater with an internal diameter of 0,36m or with a peak throughput of 120 litres per second or more	The current water supply line be upgraded to accommodate the required volume going to the AgriHub site.
R983	25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	The development of the AgriHub and the associated processes will require an onsite waste treatment plant which will entail solid separation by screening, primary settlement, waste water balancing and ultra-filtration.
R984	15	The clearance of an area of 20 hectares or more of indigenous vegetation	The entire project footprint comprises of 75ha , of which an excess of 20 Ha is indigenous vegetation which will need to be cleared

The following series of IEM Guidelines will be used during the entire EIA process:

- ❑ DEAT (2002), Scoping, Integrated Environmental Management, Information Series 2;
- ❑ DEAT (2002), Stakeholder Engagement, Integrated Environmental Management, Information Series 3;
- ❑ DEAT (2002), Specialists Studies, Integrated Environmental Management, Information Series 4;
- ❑ DEAT (2002), Impact Significance, Integrated Environmental Management, Information Series 5;
- ❑ DEAT (2002), Ecological Risk Assessment, Integrated Environmental Management, Information Series 6;

- ❑ DEAT (2004), Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7; and
- ❑ DEAT (2004), Criteria for determining alternatives, Integrated Environmental Management, Information Series 11.

2.3 RELEVANT LEGISLATION

The following laws, regulations and documents in Table 2-2 also have relevance to the project:

Table 2-2: Legislative Framework

NAME	OVERVIEW	PERMITS/LICENSES
INTERNATIONAL		
Convention of Biological Diversity (CBD)	<p>South Africa is a signatory to the CBD, which requests countries to:</p> <ul style="list-style-type: none"> • Establish a system of protected areas to conserve biodiversity; • Develop guidelines for the selection, establishment and management of protected areas; and • Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species. <p>The proposed development traverses areas that are pristine and formally and informally designated as nature reserves. As such there is need to ensure that detrimental and irreversible impacts will be mitigated or avoided.</p>	
NATIONAL		
Environmental Conservation Act (Act No. 73 of 1989)	This Act was superseded by NEMA as the primary environmental framework act. The purpose of the Act is to provide for effective protection and controlled utilisation of the environment.	
National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	This Act controls the management and conservation of South African biodiversity within the framework of NEMA. The Act lists	A list has been published under Section 56 (1) of critically endangered, endangered, vulnerable and protected

NAME	OVERVIEW	PERMITS/LICENSES
	species that are threatened or require protection to ensure their survival in the wild, while regulating the activities, which may involve such listed threatened or protected species and activities which may have a potential impact on their long-term survival.	species and as such a permit is required prior to undertaking restricted activities in areas with the species.
National Spatial Biodiversity Assessment, 2004	The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels.	
National Forest Act (Act No. 84 of 1998)	This Act provides for the management, utilisation and protection of forests through the enforcement of permitting requirements associated with the removal of protected tree species, as indicated in a list of protected trees.	Protected and indigenous tree cutting permits in terms of the Section 15(1) of the Act. The protected trees that shall not be cut are listed in Schedule A of Notice No. 1602 of 23 December 2016.
National Environmental Management: Protected Areas Act (Act No.57 of 2003)	The Act makes provision for the protection and conservation of ecologically viable areas that show the country's biodiversity, natural landscapes. It also takes into account the declaration of the various categories of protected areas and envisages a national register of protected areas, with a simplified classification system of Special Nature Reserves, National Parks, Nature Reserves and Protected Environments. In addition, the Act brings in the concept of biological diversity protection and ecosystem management.	
National Water Act (Act No 108 of 1997)	This Act aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. In addition, Section 19 of the Water Act requires the owner of the facility or person in control of land on which any activity, process is or was performed undertaken or any other situation exist which causes, has caused or is likely to cause pollution of water resources, take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.	General Authorization is required from the Department of Water and Sanitation in terms of Section 39 of NWA for water use as defined in Section 21(c) and 21(i).
National Environmental Management: Waste Act (Act No. 59 of 2008)	In terms of the Waste Act; no person may commence, undertake or conduct a waste management activity except in accordance with:	The waste produced during the construction and operation and storage thereof is below the minimum threshold specified in the listed activities Category A, B or C. However,

NAME	OVERVIEW	PERMITS/LICENSES
	<ul style="list-style-type: none"> ○ The requirements or standards determined in terms of the Waste Act for that activity; and ○ A waste management license issued in respect of that activity, if a license is required. 	<p>the waste produced during construction should be disposed of at the registered municipality landfill.</p>
<p>The National Environmental Management: Air Quality Act (Act No.39 of 2004)</p>	<p>The main objective of the Air Quality Act (NEMAQA) is the protection of the environment and human health, in a sustainable (economic, social and ecological) development framework, through reasonable measures of air pollution control.</p>	<p>Schedule of activities that require an atmospheric emission license has been published. The proposed power line and substation extension are not listed as having detrimental impacts on air quality.</p>
<p>The Hazardous Substance Act (Act No. 15 of 1973)</p>	<p>The Hazardous Substances Act (HAS, No. 15 of 1973) was promulgated to provide for the control of substances which may cause injury, ill-health or death. Substances are defined as hazardous if their inherent nature is: toxic, corrosive, irritant; strongly sensitising, flammable and pressure generating (under certain circumstances) which may injure cause ill-health, or death in humans.</p>	<p>Minimum requirements of dealing with hazardous wastes should be followed when dealing with hazardous substances.</p>
<p>Conservation of Agricultural Resources Act (Act No. 43 of 1983)</p>	<p>The Conservation of Agricultural Resources Act ([CARA] Act 43, 1983) provides for the:</p> <ul style="list-style-type: none"> ○ Protection of wetlands; and ○ Requires the removal of listed alien invasive species. <p>This Act also requires that any declared invader species on DRDLR land must be controlled according to their declared invader status.</p>	
<p>The National Heritage Resources Act (Act No. 25 of 1999)</p>	<p><i>Section 34 (1)</i>: No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the South African Heritage Resources Agency (SAHRA), or the responsible provincial resources authority.</p> <p><i>Section 35 (4)</i>: No person may, without a permit issued by the SAHRA or the responsible heritage resources authority, destroy or damage, excavate, alter or remove from its original position, or collect, any archaeological material or object.</p> <p><i>Section 36 (3)</i> No person may, without a permit issued by SAHRA or a provincial heritage authority, destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated</p>	<p>Permits are required for any development that may affect heritage resources such as graves and old buildings. The need for permits can only be ascertained when the Heritage specialists undertakes a final walk-down after the project has been authorized.</p>

NAME	OVERVIEW	PERMITS/LICENSES
	outside a formal cemetery administered by a local authority.	
Tourism Act No.3 of 2014	<p>The main objectives of the Act are:</p> <ul style="list-style-type: none"> • Promotion of responsible tourism practices; • Provision for the effective marketing of South Africa, both domestically and intentionally through South African Tourism (SAT); • Promotion of quality tourism products and development of sector; • Establishment of concrete intergovernmental relations to develop and manage tourism. 	
White Paper on the Development and Promotion of Tourism in South Africa, 1996	<p>The paper provides a broad framework to guide the development, planning and management of tourism within the country. Some of the constraints identified that hinder the potential economic role of the tourism industry relate to inadequate funding, limited community integration, inadequate education and training, poor environmental management, lack of infrastructure, increased levels of crime and a lack of national, provincial and local tourism structures.</p> <p>To ensure that the project has a minimal impact on tourism potential, best environmental practices will be recommended for implementation.</p>	
Promotion of Access to Information Act (Act No. 2 of 2000)	<p>The Act maintains and protects South Africans' right to access any information held by the State and/or information held by another person that is needed to protect or exercise any rights. Access to information will be granted once certain requirements have been met. The Act also recognizes that the right of access to information may be limited if the limitations are reasonable in an open and democratic society.</p> <p>All project information will be availed to all registered stakeholders and Interested and Affected Parties.</p>	
Promotion of Administrative Justice Act (Act No.3 Of 2000)	The Promotion of Administrative Justice Act (PAJA) aims to make the administration effective and accountable to people for its actions. It promotes South African citizens'	

NAME	OVERVIEW	PERMITS/LICENSES
	right to just administration. Section 33 of the Constitution guarantees that administrative action will be reasonable, lawful and procedurally fair and it makes sure that people have the right to ask for written reasons when administrative action has a negative impact on them. The Department of Environmental Affairs' decision which details the steps undertaken to achieve the decision shall be made available to the public.	
Occupational Health and Safety Act 85 Of 1993	The act aims to provide for the health and safety of persons at work and for the health and safety of persons about the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or about the activities of persons at work. The construction workers should be inducted with regards to their health and safety and also of the communities around them. DRDLR shall also ensure compliance to these standards during the operation of the power line and substations.	
Spatial Planning and Land Use Management Act (Act No. 16 of 2013)	This act is a framework act for all spatial planning and land-use management legislation in South Africa. It seeks to promote consistency and uniformity in procedures and decision-making in this field. The spatial and land use management of the local and the district municipality will be taken into account when assessing the significance of the anticipated impacts.	
Subdivision of agricultural Land Act, No. 70 of 1970 as amended	Regulates the subdivision of all agricultural land. The purpose is to prevent the degradation of prime agricultural land. The Agrihub will be on commercial agricultural land and as such it's under the auspice of this act.	

Provincial, Local and District Municipalities Documents

The following provincial and district plans and guidelines are applicable to the proposed project and as such the requirements in these documents are considered in this report:

- ✓ North West Environmental Management Act (Act No. 7 of 2003);
- ✓ North West Spatial Development Plan;
- ✓ North West Conservation Plan;
- ✓ Dr Kenneth Kaunda District Spatial Development Framework;
- ✓ Dr Kenneth Kaunda District Bioregional Plan;
- ✓ Integrated Development Plan (Matlosana Local Municipality)

DRDLR Standards and Guidelines

- ✓ Chemical Spillage Assessment and reporting;

NAME	OVERVIEW	PERMITS/LICENSES
<ul style="list-style-type: none">✓ Waste Management;✓ Water Strategy;✓ Water Management Policy;		

DRAFT

3. PROJECT DESCRIPTION

3.1 NEED AND DESIRABILITY

3.1.1 DRDLR'S MANDATE

The purpose of DRDLR for the proposed development is to enhance and encourage agricultural practice in the viable areas within the district. It aims at enhancing economic growth, food security as well as creating jobs in communities as the National Development Plan views agriculture as having the potential to create close to one million jobs by 2030. It further states that commercial agriculture has the potential to create 250 000 direct jobs and a further 130 000 indirect jobs. The initiated Agri-Parks programme offers a one stop shop for agro-production, processing, logistics, marketing and training within district municipalities. Klerksdorp has been identified as a suitable Agrihub for the Dr. Kenneth Kaunda District Agri-Park.

The nature of the proposed development can be described as "a networked innovation system of agro-production, processing, logistics, and marketing, training and extension services located in a District Municipality. As a network, it enables the growth of market-driven commodity value chains and contributes to the achievements of rural economic transformation

3.2 PROJECT ACTIVITIES

The proposed project addressed in this document, involves the construction and operation of the following three components described below;

3.2.1 LARGE AND SMALL STOCK MEAT PROCESSING PLANT

The intention is to develop a large and small stock meat processing plant with 100 large stock and 1500 small stock per day capacity. The plant will comprise of:

- ❑ Stock receiving pens and overnight accommodation area.
- ❑ Stock slaughter units.
- ❑ Meat processing unit.
- ❑ Packaging and dispatch area.
- ❑ On site waste management system

3.2.2 POULTRY VALUE CHAIN

The intention is to develop a poultry value chain with production houses and a max 2000 birds per day throughput. The poultry value chain will comprise of:

- ❑ Perimeter biosecurity zone.
- ❑ 4 x 25 000 conventional broiler houses
- ❑ Shower wash office area.
- ❑ 2000 birds per day slaughter unit.
- ❑ Processing, packaging and dispatch area.

3.2.3 CORPORATE/ OFFICE PARK

The intention is to develop an office park to administer the activities of the Poultry value chain and large and small stock meat processing plant.

The proposed activities are listed in Listing Notice 1 and 2 as having a detrimental impact to the environment hence require an Environmental Impact Assessment to be undertaken. The proposed activity to be undertaken (together with the infrastructure to be provided) is listed as activities 4, 8, 9 and 12 of Listing Notice 1 (Government Notice R983) and 15 of Listing Notice 2 (Government Notice R984) dated 14 December 2014 as amended which reads as follows:

Listing 1

Activity 3 of R983 (as amended): The development and related operation of facilities or infrastructure for the slaughter of animals with a (i) product throughput of poultry exceeding 50 poultry per day; (ii) product throughput of reptiles, game and red meat exceeding 6 units per day;

Applicability

The large stock meat processing plant is proposed to comprise of a high throughput abattoir (100 cattle or equivalent per day) and meat processing plant, whilst the small stock meat processing plant will comprise of a low throughput poultry abattoir (max 2000 birds per day).

Listing 1

Activity 4 of R983 (as amended): The development and related operation of facilities or infrastructure for the concentration of animals in densities that exceed—

- (i) 20 square metres per large stock unit and more than 500 units per facility;

Applicability

The poultry value chain will comprise of four (4) x 25 000 conventional broiler houses

Listing 1

Activity 8 of R983: The development and related operation of hatcheries or agri-industrial facilities outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.

Applicability

The proposed development footprint is in excess of 2000 square meters

Listing 1

Activity 9 of R983 (as amended): The development of infrastructure exceeding 1000m in length for the bulk transportation of water or stormwater with an internal diameter of 0,36m or with a peak throughput of 120 litres per second or more.

Applicability

The current water supply line be upgraded to accommodate the required volume going to the AgriHub site.

Listing 1

Activity 25 of R983 (as amended): The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres

Applicability

The development of the AgriHub and the associated processes will require an onsite waste treatment plant which will entail solid separation by screening, primary settlement, waste water balancing and ultra-filtration.

Listing 1

Activity 15 of R984 (as amended): The clearance of an area of 20 hectares or more of indigenous vegetation

Applicability

The entire project footprint comprises of 75ha, of which an excess of 20 Ha is indigenous vegetation which will need to be cleared

3.3 LOCATION

3.3.1 REGIONAL CONTEXT OF THE PROJECT

The proposed project is within Dr Kenneth Kaunda District in the Matlosana Local Municipality in the North West Province. The AgriHub study area is bordered by the R379 Matlosana-Stilfontein road to the north, PC Pelsler aerodrome to the east. The nearest town is Matlosana/Klerksdorp, which is located approximately 6km away in a westerly direction. From a regional perspective, it is located approximately 170km away in the South easterly direction from Mahikeng (formerly known as Mafikeng) which is the provincial capital of the North West

3.3.3 LAND OWNERSHIP

The land-use within the project area is largely comprised of vacant land, residential, commercial and subsistence farming. The farm area is private ownership and communal land owned by the Government and under the control of Traditional Authorities. Reference is made to Table 3-2 for the farm details and ownership:

Table 3-1: Farm Details and ownership

FARM NAME	PTN	SG 21 DIGITS	LAND-USE	OWNER
Farm Townlands 424IP	1	T01P00000000424000011	Municipal	National Government

3.4 TECHNICAL DETAILS OF THE PROJECT

3.4.1 SERVICE ACCESS ROADS

Temporary access routes capable of accommodating construction plant, material and workers are required for the construction of the feedlot and the office park with rural urban market centre. These roads with a width varying from 3m to 4m are constructed within the required servitude.

3.4.2 MATLOSANA AGRIHUB INFRASTRUCTURE

The proposed Matlosana Agrihub consist of the following infrastructure be developed:

- ❑ Large and small stock slaughter, processing and packaging unit.

- ❑ Corporate/ Office park.
- ❑ Poultry value chain infrastructure.

3.4.2.1 LARGE AND SMALL STOCK SLAUGHTER PROCESSING UNIT

The intention is to develop a large and small stock meat processing plant with 100 large stock and 1500 small stock per day capacity. The plant will comprise of:

- ❑ Stock receiving pens and overnight accommodation area.
- ❑ Stock slaughter units.
- ❑ Meat processing unit.
- ❑ Packaging and dispatch area.
- ❑ On site waste management systems

3.4.2.2 POULTRY VALUE CHAIN

The intention is to develop a poultry value chain with production houses and a max 2000 birds per day throughput. The poultry value chain will comprise of:

- ❑ Perimeter biosecurity zone.
- ❑ 4 x 25 000 conventional broiler houses
- ❑ Shower wash office area.
- ❑ 2000 birds per day slaughter unit.
- ❑ Processing, packaging and dispatch area.

3.4.2.3 OFFICE PARK

The intention is to develop a corporate/office park which comprises of the following:

- ❑ Management offices.
- ❑ RUMC

3.4.3 ENGINEERING SERVICES

The following services will be required to be maintained/upgraded for the proposed development

3.4.3.1 WATER SUPPLY

There is an existing bulk water supply that services the airport from the two 20ML reservoirs located 1.5 km to the west of the proposed project site. The estimated throughput from the meat processing plant is 500 large stock and 1500 small stock per day and 1000 birds per week. Based on this through put, it is proposed that the current water supply line be upgraded to accommodate 0.9 ML per day going to the Agri-hub site

3.4.3.2 WASTE WATER MANAGEMENT

Currently there is no existing waste water treatment system on site. Waste water is estimated to be 70% of estimated water requirement for the site. The development of the Agri-hub and the associated processes will require an onsite waste treatment plant which will entail solid separation by screening, primary settlement, waste water balancing and ultra-filtration.

3.4.3.3 ELECTRICITY

A high voltage overhead power line runs through the site. There is a need to develop an electricity supply system which can meet the estimated electricity demand of 66 Mwh/day for the proposed facility.

3.4.3.4 EXISTING INFRASTRUCTURE

There is an existing implement and machinery shed on site which is going to be removed as its location is at the centre of the Agri-hub site. The site is fenced with a 6 strands barbed wire running around the perimeter of the entire portion 1 of the remainder of Townlands of Klerksdorp.

3.5 PRE-CONSTRUCTION AND CONSTRUCTION PHASE

The construction phase of the project is expected to take up to 24 months with a project lifespan of 40 years or more. The main works for the construction of the Matlosana Agrihub include the following:

3.5.1 PRE-CONSTRUCTION

3.5.1.1 RIGHT OF WAY SURVEYING

Prior to construction of the large and small stock processing plant, office park and Poultry value chain, a precise ground survey will be carried out to determine the ground profile along the Agrihub. This is to

ensure that the location selected for construction of the Agrihub infrastructure comply with the technical limits laid down for maximum area and safe clearance to the area. Further consideration is given to detailed environmental effects.

3.5.1.2 SOIL SAMPLING

Geotechnical investigations will be carried out at stock processing plant site. Poultry value chain and office park positions to determine the type of foundation required. The holes will be filled in after soil sampling is completed.

3.5.2 CONSTRUCTION PHASE

The following is a process that will be adopted for the entire construction of the Agrihub. Each activity will follow the previous one, such that at any one point an observer will see a chain of events, with different teams involved over time. At any one time some or all of the different teams may be working at different points along the proposed area. There may be days of no activity in the process.

3.5.2.1 CONSTRUCTION CAMP

The establishment of the construction camp will involve the clearing of vegetation, fencing of camp and the construction of workshops and store rooms as well as temporary site offices. The location is selected by the contractor who will take into account such aspects as access to the construction site, access to services, access to materials, etc. The contractor will then enter into an agreement with DRDLR as the land owner for the establishment of the construction camp. All materials are stored at the construction camp with the exception of the valuable materials and concrete. It is therefore anticipated that there will be one construction camp by the proposed construction site.

3.5.2.2 CLEARING

The Right of Way (ROW) must be cleared to allow for construction and operation activities of the Agrihub. The DRDLR and the local community will be notified prior to construction clearing.

3.5.2.3 ACCESS ROAD CONSTRUCTION

Where construction of a new road has been agreed, the road width shall be determined by need, such as equipment size, and shall be no wider than 6m. In consultation with the DRDLR, gates are installed where they intersect with roads, other property boundaries and where access roads cross agricultural land containing livestock.

3.5.2.4 FOUNDATION INSTALLATION

A work crew will excavate the foundations for the Matlosana Agrihub infrastructure. The foundation is influenced by the terrain encountered as well as the underlying geotechnical condition. The actual size and type of foundation to be installed will depend on the soil bearing capacity and can be excavated manually or by using machines.

3.6 OPERATION AND MAINTENANCE OF THE AGRIHUB

The management of Matlosana Agrihub is dependent on the details and conditions of the agreement between the DRDLR and the appointed contractor to operate, therefore are site-specific.

3.7 DECOMMISSIONING PHASE

During the decommissioning phase, the removal of the Agrihub will be the reversal of the construction phase and rehabilitation of the ROW. Hence in this project the decommissioning of the Matlosana Agrihub is not applicable until DRDLR indicate so.

4. ALTERNATIVES

This chapter identifies and describes the alternative infrastructure options and motivation for site selection for the proposed project. In terms of the NEMA EIA Regulations GNR982, one of the criteria to be considered by the Competent Authority when considering an application is “*any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment*”. Alternatives are defined in the Regulations as “*different means of meeting the general purpose and requirements of the activity*”. It is therefore necessary to provide a description of the need and desirability of the proposed activity and 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.

The “*feasibility*” and “*reasonability*” of an alternative will therefore be measured against the general purpose, requirements and need of the activity and how it impacts on the environment and on the community that may be affected by the activity. It is therefore vital that the identification, investigation and assessment of alternatives address the issues/impacts of a proposed development.

4.1 LOCATION ALTERNATIVES

‘These are considered for the entire proposal or for a component of a proposal with the latter sometimes being considered under site layout alternatives. A distinction should also be drawn between alternative locations that are geographically quite separate and alternative locations that are in close proximity. Alternative locations in the same geographic area are often referred to as alternative sites.’ DEAT, 2004.

4.1.1 PROPOSED SITE SELECTION CRITERIA

Prior to identifying the site alternatives, the applicant undertook a desktop evaluation to assess and note the key challenges within the proposed area. To construct and operate an Agrihub, DRDLR identified and evaluated the site alternatives at a broader scale to identify the preferred site. Criteria were selected from the biophysical, technical and social aspects to ensure representation of the different project proponents.

The three aspects considered by DRDLR to identify their preferred site are discussed below:

4.1.1.1 BIOPHYSICAL CRITERIA

- **Biodiversity:** The construction and maintenance of transmission line through intact environments may result in alteration and disruption to the habitat including impacts to fauna

and avian species and an increased risk of forest fires. The avoidance of the sensitive environmental resource areas such as intact environments is desired hence this criterion was weighted of low significance;

- ❑ **Land Capability:** This was considered in the context of agricultural potential, i.e. the loss of agricultural area due to the Right of Way. This was given a low weighting since some agricultural activities are allowed within the ROW if the minimum vertical and horizontal distances set out by DRDLR are kept.
- ❑ **Current Land-use:** the intensity of the current site use and the associated value of that use was considered especially in a conservation and agricultural context as the area is largely comprised of agricultural farms.

4.1.1.2 TECHNICAL CRITERIA

- ❑ **Engineering:** the terrain and location of the Agrihub and constructability issues must be considered. Among the constructability factors considered is the ability to avoid or minimize the location of the Agrihub structures along steep slopes or embankments, in areas of rock outcroppings, or within environmentally sensitive areas such as wetlands.
- ❑ **Area of the Agrihub:** The hectares of the area for the proposed activity also considered.

4.1.1.3 SOCIAL CRITERIA

- ❑ **Job Creation:** the creation of jobs was also considered as this project expected to eradicate poverty in the local communities
- ❑ **Heritage:** this entails the existence of archaeological objects that may be impacted by the construction of the Agrihub which may result in increasing the time frame and costs of the project.

4.1.2 NO-GO ACTION ALTERNATIVES

The description of the baseline or existing environment or status quo is essential to all environmental assessments, and should be focussed on the key characteristics of, and values or importance attached to the environment. The baseline, or 'no-go' option, as well as all other relevant alternatives must be described, assessed and evaluated at the same scale and level of detail that enables adequate comparison with the proposed project. DEAT, 2004

The no-go alternative also means that the environment does not change, i.e., the land upon which the Matlosana Agrihub would be, would primarily be used for agriculture, mining, conservation and residential unless a different development is undertaken

4.2 ACTIVITY ALTERNATIVES

According to DEAT, 2004, consideration of activity alternatives entails the change in nature of the proposed activity to meet the same need. No go alternative can also be assessed under these alternatives. These are sometimes referred to as project alternatives, although the term activity can be used in a broad sense to embrace policies, plans, and programmes as well projects. Consideration of such alternatives requires a change in the nature of the proposed activity. (DEAT: 2004d)

Possible agricultural activities were considered as alternatives to the agrihub which is the preferred activity these include piggery as well as fisheries, however the large and small stock meet processing plant was adopted for the Matlosana the area has a lot of cattle farmers and is considered the "Texas" of South Africa

5. THE RECEIVING ENVIRONMENT

5.1 REGIONAL ECONOMY

The district is a relatively prosperous and dynamic region of South Africa. Its quality of life is amongst the best that South Africa has to offer, reflected in its high average incomes, extensive access to basic infrastructure, world-class medical and educational facilities, and relatively low rate of serious crimes. Its excellent location, healthy climate and access to the largest markets in Africa make this area an ideal location for business.

The sectors with most potential are agriculture, agro-processing, pharmaceuticals, environmentally-friendly technologies, tourism, composite materials manufacturing, chemicals and fertilizers, property development, information and communications technology, education and training services and health services. In order of their contribution to the district's GDP, the main economic sectors of Dr Kenneth Kaunda District Municipality are: Mining (19.6%), Trade (17.3%), Finance (16.2%), Government (13.8%), Transport and Communications (9.1%), Manufacturing (8.8%), Services (8.0%), Construction (3.5%), Agriculture (2.3%).

5.2 GEOGRAPHICAL PROFILE

Spanning an area of 14 642km², Dr Kenneth Kaunda District Municipality in the North West province is located 65km south-west of Johannesburg and borders the Gauteng province on that side. The municipality consists of four local municipalities: Tlokwe City Council, City of Matlosana, Maquassi Hills and Ventersdorp. It is a region with a rich and diverse natural and cultural heritage, with the potential for sustained economic growth. The region is home to some of the most prominent gold mines in the world and one of the oldest meteor impact sites in the world. The district is serviced by a number of primary roads, with the N12 Treasure Corridor forming the main development axis in the district and serving as a potential concentration point for future industrial, commercial and tourism development. Cities/Towns: Hartbeesfontein, Klerksdorp, Leeudoringstad, Makwassie, Orkney, Potchefstroom, Stilfontein, Ventersdorp, Witpoort, Wolmaransstad.

5.3 CLIMATE

Matlosana normally receives about 447mm of rain per year, with most rainfall occurring mainly during mid-summer. It receives the lowest rainfall (0mm) in June and the highest (88mm) in January. The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for Lichtenburg range from 17.7°C in June to 30°C in January. The region is the coldest during June when the mercury drops to 0°C on average during the night

5.4 VEGETATION

The vegetation in the study area is Vaal Vet Sandy grassland and comprises 90% grass cover with the following

- Low Shrubs: *Felicia muricata* (d), *Pentzia globose* (d), *Anthospermum rigidum* subsp. *pumilum*, *Helichrysum dregeanum*, *H. paronychioides*, *Ziziphus zeyheriana*.
- Grass species, *Anthepera pubescens* (d), *Aristida congesta* (d), *Chloris virgata* (d), *Cymbopogon caesius* (d), *Cynodon dactylon* (d), *Digitaria argyrograpta* (d), *Elionurus muticus* (d), *Eragrostis chloromelas* (d), *E. lehmanniana* (d), *E. plana* (d), *E. trichophora* (d), *Heteropogon contortus* (d), *Panicum gilvum* (d), *Setaria sphacelata* (d), *Themeda triandra* (d), *Tragus berteronianus* (d), *Brachiaria serrata*, *Cymbopogon pospischilii*, *Digitaria eriantha*, *Eragrostis curvula*, *E. obtusa*, *E. superba*, *Panicum coloratum*, *Pogonarthria squarrosa*, *Trichoneura grandiglumis*, *Triraphis andropogonoides*. *Cymbopogon pospischilii*, *Digitaria eriantha*, *Eragrostis curvula*, *E. obtusa*, *E. superba*, *Panicum coloratum*, *Pogonarthria squarrosa*, *Trichoneura grandiglumis*, *Triraphis andropogonoides*.
- Forbes and herb species, *Stachys spathulata* (d), *Barleria macrostegia*, *Berkheya onopordifolia* var. *onopordifolia*, *Chamaesyce inaequilatera*, *Geigeria aspera* var. *aspera*, *Helichrysum caespitium*, *Hermannia depressa*, *Hibiscus pusillus*, *Monsonia burkeana*, *Rhynchosia adenodes*, *Selago densiflora*, *Vernonia oligocephala*. Geophytic Herbs: *Bulbine narcissifolia*, *Ledebouria marginata*. Succulent Herb: *Tripteris aghillana* var. *integrifolia*.

No Red Data species were identified

5.5 ARCHAEOLOGICAL AND PALEONTOLOGICAL ATTRIBUTES

The survey identified a relatively recent past livestock kraal (enclosure) and dilapidated structure constructed as temporary shelter for cattle header. In conclusion there are no written documents on the previous archaeological investigations of the listed farm from the South African Heritage Resources database. The objective of the AIA is to limit primary and secondary impacts on archaeological and cultural heritage sites in the path of the proposed development. In the event of any unexpected heritage feature being encountered during construction phase of the agrihub relevant heritage authorities should be informed. Based on the desktop heritage assessment undertaken for this development, it is clear that the area has not been studied archaeologically and historically in much detail, although more is known about the cultural heritage of the wider geographical area and the cultural heritage of the development area has to be interpreted within this context. The study did not identify Stone Age and Iron Age sites, features or objects of cultural and heritage significance, but it is possible that these might be present. The presence of graves is always a distinct possibility when farmsteads and labourer structures are

present. Sometime the graves are unmarked or only low, stone parked features No further studies / Mitigations are recommended given the fact that within the proposed development footprint and its surrounding there is no archaeological or place of historical significance that will be impacted by the proposed development. From an archaeological and cultural heritage resources perspective, there are no objections to the proposed project and we recommend to the Provincial Heritage Resource Agency, South African Heritage Resource Agency to approve the project as planned

5.6 AIR QUALITY

Several activities associated with project construction can cause particulate matter and gases to enter the atmosphere and degrade air quality. Particulate matter originates from smoke from open burning of waste vegetation as well as from dust generated by construction activities. Gaseous hydrocarbons and oxides of sulfur and nitrogen are emitted from vehicle exhaust and open burning. The impact that these air pollutants have on sensitive persons or crops depends on topographic and meteorological factors, as well as the amount of each pollutant emitted. The topography of the area also contributes to poor air quality by trapping air pollutants in the atmosphere under stable atmospheric conditions. The main impacts on air quality result from pollution and dust emissions from mining, agricultural, domestic and industrial activities.

6. OVERVIEW OF SPECIALISTS SURVEY

Based on the environment observed and the nature of the development, there was a need to have an in depth understanding of the status quo of various aspects of the environment and how the development will have an impact on these environmental aspects. Specialists' studies are therefore required to inform the Environmental Impact Assessment Process by considering the specific nature of the environment within which the development is to be undertaken. The results of these studies will serve as a basis to identify the potential impacts expected should the development be undertaken. Noise and air quality impacts while important are likely to be less significant hence they will not require a specialist assessment. This report includes the specialist impact assessment reports commissioned as part of the environmental process and a summary of the Ecological and Biodiversity, Heritage, and Agriculture engineering report is given in the sections below. The detailed reports are attached in **Appendix D**

6.1 ECOLOGICAL IMPACT ASSESSMENT

The Ecological Impact study was carried out by Plantago Lanceloata and the full report is appended to this report

The Terms of Reference were as follows:

- ✓ To undertake a vegetation survey on site and provide species lists;
- ✓ To identify possible Red Data floral species and important habitat that may occur within the proposed site;
- ✓ To provide a desktop faunal survey of the area;
- ✓ To provide an indication of the relative conservation importance and ecological function of the study area in terms of flora and fauna. This will be captured in a sensitivity map;
- ✓ To assess the impacts of the proposed activity on the ecological integrity of the area; and
- ✓ To provide recommendation on ecological mitigation measures for the proposed development.

6.1.1 ASSUMPTIONS AND LIMITATIONS

The following limitations were made:

- Ideally, an ecological assessment should be carried out over a longer period and should be replicated over several seasons. Due to the constraints of time and season, the results were collected and concluded from transects shown in the map.

- General observations upon walking through the proposed study site and a survey of aerial imagery also assisted in the compilation of the sensitivity map. Information about this study relied heavily on data from representative sections of natural grassland.
- As faunal sampling was not undertaken the floral assessment results specifically the species composition was used as an indication of disturbance and to identify possible faunal habitat from floral data.

6.1.2 METHODOLOGY

The following sources were consulted:

- ✓ Satellite images (Google-Earth, 2017) and Aerial photographs (scale: 1:10 000) were used to delineate relatively homogeneous units within the study area.
- ✓ Transects were walked within the perceived habitat types on the site, concentrating on moving through environmental gradients encountered within the habitat type in order to identify species and communities. This was continued until few to no new species were encountered.
- ✓ Any additional information on any other feature thought to have ecological significance within the site, such as fauna or evidence of fauna, soil type, altitude, erosion, rocky cover, alien/exotic/invasive plants as well as Red Data Species and/or their habitat was also recorded.
- ✓ A wide range of spatial data sets were interrogated and relevant information was extracted for the study site.
- ✓ A basic ecological sensitivity analysis was performed to identify areas of special interest or concern

In addition, a field visit was undertaken by the specialist on the 28 of August 2018.

6.1.3 IMPACT ASSESSMENT

The proposed Agri-Hub on the study site will have minimal impact on the site. The grassland area that exists on the previously cultivated area covered by *Cynodon dactylon* grass and a few endemic grass species, the low plant species diversity precludes the site from being a potential habitat for red data species both flora and fauna. Since the area displays some disturbance due to overgrazing, alien species invasion and cultivation over a long period of time, the Agrihub is not expected to affect the area's integrity. Potential ecological impacts resulting from the construction and operation of the Agri-Hub

6.1.4 CONCLUSIONS AND RECOMMENDATIONS

There seems to be a general trend of low sensitivity of the study site and a decrease of sensitive features to the southwestern and northeaster side, where gazing practices seem to have taken place with higher intensities. Proposed Agri-Hub and associated developments must take special cognisance of the drainage lines that represents a threat to the integrity of habitats and freshwater resources if erosion processes continue or are exacerbated. Even though no protected plant and animal species were identified on the site, the site warrants a careful approach to development through keeping the lay-out and construction footprints to a minimum. Other important recommendations that should be adhered to be the rehabilitation of the weed infested previously disturbed portions of the study site using erosion rehabilitation structures for the stream banks and veld restoration techniques.

6.2 HERITAGE IMPACT ASSESSMENT

The Heritage and Archaeological Impact Study was carried out by Vhufa Hashu Heritage Consultants cc and the full report is appended to this report

The Terms of Reference were as follows:

- ✓ Undertake a Phase 1 Heritage and Palaeontology Impact Assessment in accordance with the South African Heritage Resources Act (Act No. 25 of 1999);
- ✓ Undertake baseline study indicating the location of heritage and palaeontology resources, the nature and degree of significance and the present physical condition;
- ✓ Prepare a heritage and palaeontology sensitivity map, based on the findings of the study;
- ✓ Identify the resources to be monitored; and
- ✓ Recommend the preferred corridor with mitigations measures to be implemented.

6.2.1 ASSUMPTIONS AND LIMITATIONS

- Most of the area proposed for development is encroached by grass which make it almost impossible to view the ground surface. It is thus possible that some materials could have been overlooked due to issue related to visibility.
- Nevertheless, chances of finding any archaeological resource is very limited given that the area had been used for agricultural purposes in the past as evident by scrub vegetation.

- It is assumed that the Social Impact Assessment and Public Participation Process might also result in the identification of sites, features and objects, including sites of intangible heritage potential in the area and that these then will also have to be considered in the final report

6.2.2 METHODOLOGY

The study method refers to the SAHRA Policy Guidelines for impact assessment, 2012. As part of this archaeological impact assessment, the following tasks were conducted: 1) site file search, 2) literature review, 3) consultations, and 4) analysis of the acquired data, leading to the production of a report. To understand the archaeology of the prospecting area, a background study was undertaken and relevant institutions were consulted. These studies entails review of archaeological and heritage impact assessment studies that have been conducted around the proposed area thorough SAHRIS. In addition, E-journal platforms such as J-stor, Google scholars and History Resource Centre were searched. The University of Pretoria's Library collection was also pursued. These investigations were fundamental in shading light about the archaeology of the area, as well as compilation of this report

In addition, the field survey was conducted in August 2018 by two VHC Archaeologists.

6.2.3 SUMMARY OF ASSESSMENT

The impact of the proposed Agri-hub on archaeological and cultural heritage remains is rated as being low. The probability of locating any important archaeological remains dating to the Stone or Iron Age during construction of the project is thus low.

6.2.4 CONCLUSIONS AND RECOMMENDATION

A thorough background study and survey of the proposed development was conducted and findings were recorded in line with SAHRA guidelines. As per the recommendations above, the proposed development and planning of the proposed project can proceed without further archaeological or cultural-heritage impact assessment.

Although no archaeological objects were observed during the survey, the client is reminded that these often happen underground, as such should any archaeological material be unearthed accidentally during the course of construction, SAHRA should be alerted immediately and construction activities be stopped within a radius of at least 10m of such indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist or SAHRA officer should be contacted immediately. In the meantime, it is the responsibility of the Environmental officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of

human remains encountered to the South African Police Services, SAHRA staff member and professional archaeologist.

6.3 AGRICULTURAL ENGINEERING REPORT

The Agricultural Engineering report for the project area was carried out by Luriware Consulting Agricultural Engineers and the full report is attached in **APPENDIX**.

6.3.1 *REPORT FINDINGS*

The proposed development is not in conflict with the surrounding neighbourhood because the site is surrounded by vacant land and is located outside the Matlosana Central Business District and residential areas. This means that it does not pose any threats or disturbance to the surrounding or nearby land use/practice.

Furthermore, the proposed development seeks to promote and optimise sustainable land development, economic growth. The size/extent of the property is sufficient enough for the proposed development

7 PUBLIC PARTICIPATION PROCESS

7.1 INTRODUCTION

Public Participation Process (PPP) is viewed as a process of empowering communities and stakeholders in their efforts to safeguard the resource-base in more efficient ways and to use the resources sustainably. It also enables people to play lead roles in identifying, designing, directing and implementing any development activity which has an impact on their immediate environment, and therefore on their way of life. When undertaking an EIA project, public participation process is undertaken in terms of the Regulations set out in Chapter 6 of the EIA Regulations, Government Notice R982 of December 2014 as amended. The activities carried out as part of the process are as follows:

- *Section 40 – all registered Interested and Affected Parties (I&APs) are given 30 days to submit comments on generated reports;*
- *Section 41 – the person conducting a PPP must give notice to all I&APs by fixing notice boards, giving written notice and placing advertisements in local newspapers and provincial/national newspapers;*
- *Section 42 – open and continuously maintain a register of Interested and Affected Parties (I&APs);*
- *Section 43 – all registered I&APs are entitled to comment on all reports and the person conducting the PPP must ensure that comments raised are brought to the attention of the proponent or applicant; and*
- *Section 44 – the person conducting the PPP must ensure that comments of I&APs and records of meetings are recorded and responded to. The comments and responses report must be attached to the reports that are submitted to the competent authority.*

7.2 OBJECTIVES AND APPROACH TO THE PPP

The objectives of the PPP are:

- ❑ To gather input from Interested and Affected Parties (I&APs) regarding the level and nature of their interest to better plan public participation activities related to the EIA;
- ❑ To obtain local knowledge from the public to enhance our understanding of the environmental, cultural and socio-economic setting of the proposed project for use in the EIA;
- ❑ To understand the reasons behind the views of the public regarding the potential environmental impacts;
- ❑ To solicit public input or views regarding potential alternatives and mitigation measures to reduce environmental impacts;

- ❑ To work with the public to resolve a topic specific issue;
- ❑ To obtain public comments on the Draft Environmental Impact Assessment Report (EIAR) to verify whether information in the report is accurate, representative and adequate;
- ❑ To provide feedback to Interested and Affected Parties about how their input, views, issues and concerns have been considered in the process; and
- ❑ To inform the public about the Competent Authority's (Department of Environmental Affairs) decision and next steps to follow.

7.3 LIMITATIONS ASSOCIATED WITH PUBLIC PARTICIPATION PROCESS

Certain limitations are found with any public participation process. The most important are:

- I&APs not registering and therefore not partaking in public events and the public participation process;
- I&AP not attending public events relating to the proposed project;
- I&AP not receiving information timeously and commenting timeously;
- Lengthy time associated with identifying and contacting all I&AP in a study area; and
- I&APs focusing on issues that do not relate to the proposed project.

7.4 METHODOLOGY ADOPTED

Public Participation Process entails that all stakeholders that might be affected or have interest in the proposed project be afforded an opportunity to participate in the impact assessment of the project and they must each realize that they have responsibilities. See Figure 7-1 and 7-2 for the role of the Interested and Affected Parties (I&APs), the EAP and the Competent Authority (CA):

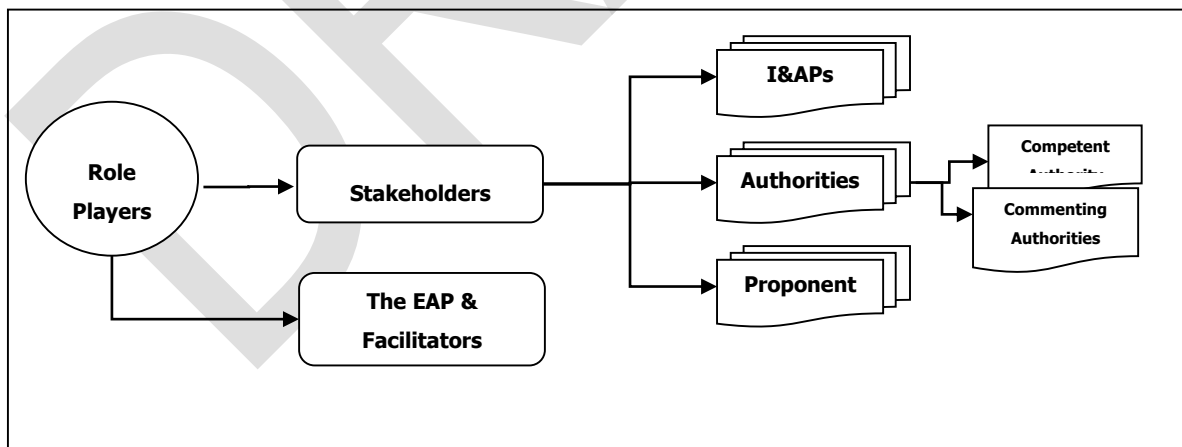


Figure 7-1: Role Players in the PPP

The Proponent:

- Provide adequate information to the Authorities, the EAP and to I&APs
- Adopt an open and transparent attitude during the interaction with I&APs
- Understand that the EAP acts independently and objectively in order to improve communication between I&APs and the Proponent
- Have empathy and patience with I&APs who do not possess the relevant background knowledge
- Avoid raising unrealistic expectations

I&APs:

- Register as an I&AP and advise the EAP about other I&APs who should be consulted
- Engage according to the agreed procedures and time frames
- Representatives of landowners and other organizations must ensure that their views are of their members and not their own
 - Avoid making unrealistic demands and provide appropriate information
 - Assist in identifying and prioritizing issues that need to be investigated and verify that issues have been recorded and considered

The EAP/PP Team:

- Communicate with all I&APs in order to provide them with information to enable them to participate in a meaningful way
- Organize all the required PPP activities
- Record and process the inputs, comments and issues received from I&APs
- Ensure that I&APs inputs are integrated into the reports which are communicated to the competent authority
- Avoid raising unrealistic expectations and undue fears



Competent Authority:

- Ensure that the requirements for decision-making do not limit the rights of stakeholders to engage adequately in the process
 - Where appropriate, ensure that the Proponent appointed an independent EAP
- Allow adequate time for stakeholder engagement
- Provide a decision on the application
- Allow for stakeholders to appeal against the decision

Figure 7-2: Role Players

7.6 SUMMARY OF PP ACTIVITIES UNDERTAKEN DURING THE SCOPING PHASE

The following PPP activities were carried out in accordance to Section 40-44 of the EIA Regulations as amended:

7.6.1 SITE RECONNAISSANCE

Due to the larger area traversed by the proposed power lines and the different groups, there was need to have a diversified team who understood the cultures and languages of the different groups of people. A reconnaissance site visit was undertaken at the inception of the Scoping phase. This was done to develop the preliminary understanding of the social context (representative structures; language; communication media, etc.). The outcome of this site visit was that information to the communities in the receiving environment would best be distributed via leadership structures that are available in these communities, namely traditional leadership and different Landowners Groupings. In addition, local officers were used to mitigate the issue of language in meetings with the recognized leadership structures that are used for communication.

7.6.2 STAKEHOLDER IDENTIFICATION

With the help of land-owners' database developed by Potlako Negotiators and Services (Pty) Ltd, Windeed and through networking and advertising, I&APs were identified and these I&APs are currently registered on the database. Two separate databases are maintained viz. the database for landowners and the

database for all other stakeholders (I&APs). The two databases of registered stakeholders include stakeholders from:

- National, Provincial and Local Government;
- Landowners;
- Non-Governmental Organizations; and
- Business, Industry & Tourism.

7.6.3 NOTIFICATION:

To create awareness, use was made of Background Information Document (BID), emails; telephone calls; newspaper advertisements and site notices; visits to different Traditional Authority offices and municipal offices. Visiting Traditional Authority offices and municipal offices also helped the PPP Team to establish the preferred consultation process in the area. Advertisements were also placed in national/provincial and local newspapers notifying them about project and the availability of Draft Scoping Report and to encourage them to comment as well as to attend public meetings that were planned in their area. Reference is made to Table 7-2 for the dates of advertising.

7.6.4 MEETINGS

Different groups of stakeholders were identified and registered. The different stakeholders were consulted separately as their perceptions of such projects differed, hence the need to be consulted with separately and sometimes individually. Proximity of locations of different stakeholders also made it difficult to get them to attend the same meetings. Meetings were held at project inception and at the draft scoping phase stage with the landowners, traditional authorities and stakeholder government departments. Reference is made to the attached Comments and Response Report.

The activities undertaken and proposed during the Pre-Application and Scoping Phases of the assessment are outlined in Table 7-1 overleaf:

Table 7-1: Summary of PP Activities

DATE	ACTIVITY	PARTICIPANTS	PRODUCTS
	Identified Interested and Affected Parties and listed them in the database	Consultants and the public	I&AP Database
	Placed Site Notices in the study area	PP Consultant	Site Notices
	Distribution of PP documents (BID, Reply Sheet, Study Area Map)	Consultants and the Public	Information documents distributed
	Officially announced the project through the newspapers advertisements	Project Proponent (DRDLR), Consultants and general public	Newspapers adverts
ACTIVITIES UNDERTAKEN DURING THE AVAILABILITY OF DRAFT SCOPING REPORT			
	Advertise the availability of DSR and the dates of public meeting in the Local Newspapers	PP team	Newspapers Adverts
	Notify I&APs about the availability of DSR and the dates of the public meetings	PP team	Letter
	Public Meeting	PP team and community	Minutes
	Reminder to comment on DSR	Registered Stakeholders	Email's proof
	Circulation of Minutes	PP Consultant	Email's proof
	Notification of availability of revised (final) scoping report	Registered Stakeholders	E-mail proof and notification letter

7.7 PUBLIC PARTICIPATION AT EIA PHASE

The purpose of the public participation process during the EIA Phase is to:

- ✓ inform stakeholders about the findings of the specialists reports and the recommendation by the EAP;
- ✓ gather comments and concerns regarding the potential impacts and the recommendations made by the EAP;
- ✓ identify gaps in terms of the potential mitigation measures that might have been overlooked; and

- ✓ further strengthen relationships with the stakeholders.

7.7.1 APPROACH AND METHOD

The following steps will be undertaken:

- ✓ **Notification of Stakeholders:** Stakeholders will be notified of the availability of the Draft EIAr for the 30-day comment through the newspaper adverts, letters and phone calls for other stakeholders. E-mail communication and follow up phone calls will be sent directly by the PP team.

7.8 CONCLUSION

Based on the inputs received during the Public Participation Process conducted so far, the PPP team is confident that all reasonable efforts were made to inform the public in the study area about the proposed project. The consultation process to date is considered to have managed to give the public, especially the landowner's ample opportunity to raise issues of concern, which they might have regarding the proposed transmission power lines and substation upgrade. Mainly the concerns have been about compensation, job creation, potential impact on eco-tourism and the loss of agricultural land.

Consultation and/or communication with stakeholders and I&APs is ongoing throughout the study process up until an Environmental Authorization is issued. Any additional information that will be received from stakeholders and that might be requested by stakeholders will be given attention during this EIA Phase. In addition, information regarding the project, Environmental Impact Assessment process and the Environmental Authorization (EA) will be communicated to all I&APs.

Based on the above information it is recommended that:

- Communication with I&APs, especially the communities in the vicinity of the proposed route, should continue to ensure informed decision-making and a transparent process throughout.

7.9 WAY FORWARD

All comments received during the review of the Draft EIAr will be incorporated into the FEIAr. Registered stakeholders will be notified about the submission of the FEIAr to DEA. Once DEA issues a decision with regards to the FEIAr and the Environmental Management Programme, all registered stakeholders will be informed and advised about the decision and the way forward.

DRAFT

8 POTENTIAL IMPACTS AND DETERMINATION OF SIGNIFICANCE

This section of the report evaluates the possible negative and positive impacts which may occur because of going ahead with the proposed project. Potential environmental impacts have been identified based on the following:

- A review of the proposed activity; and
- The nature of the receiving environment.

Reference is made to the Figure below for the methodology used:

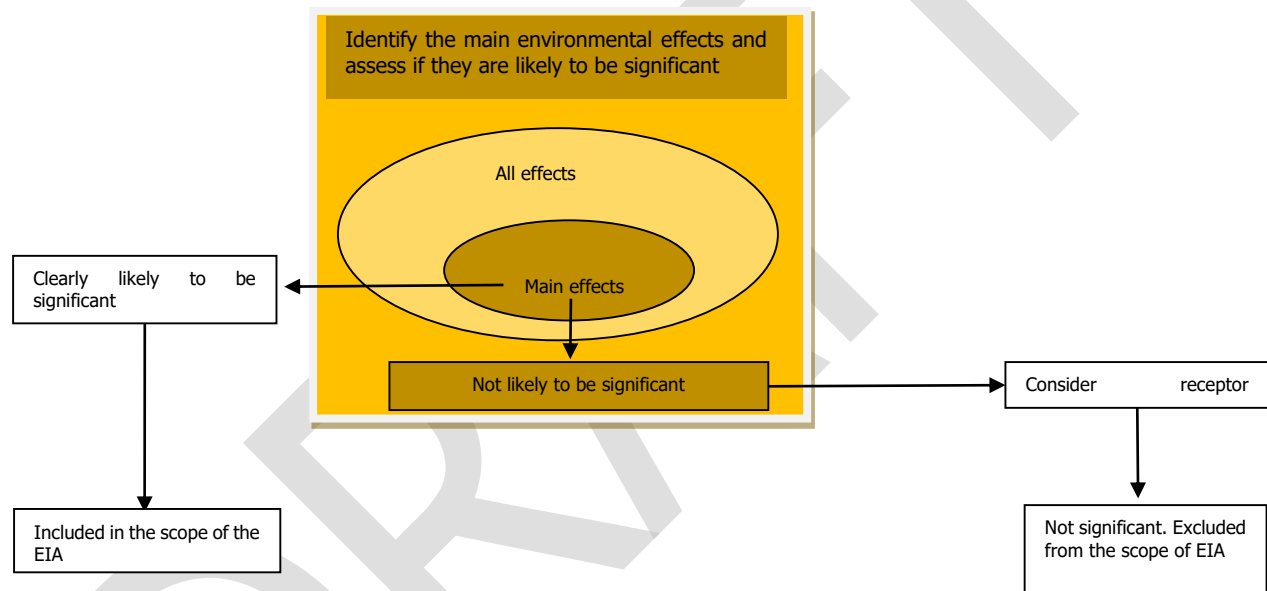


Figure 8-1: Identification of impacts

Risks and key issues were identified through an internal process based on similar developments and site visits. These included the following:

- ❑ Biodiversity impacts;
- ❑ Soil/Land Impacts;
- ❑ Hydrological impacts;
- ❑ Waste impact;
- ❑ Air quality impact;
- ❑ Visual and noise impact;

- ❑ Heritage and archeological impacts;
- ❑ Tourism related impacts;
- ❑ Land use impacts; and
- ❑ Socio-economic Impacts

8.1 CHARACTERISTICS OF ENVIRONMENTAL IMPACTS

The significance of an impact is an expression of the cost or value of an impact to society. Impacts are divided according to phases: pre-construction, construction, operation and decommissioning phase. The following parameters will be used to assess the identified environmental impacts. It should be noted that the Tables as stated in the accepted Plan of Study have been combined to form one table with the exception of cumulative impacts, status and significance:

Table 8-1: Characteristics of Environmental Impacts

ASPECT	CATEGORY	DESCRIPTION	SCORE
INTENSITY	This refers to the degree to which the project area is affected by an impact. The intensity of the impact is considered by examining whether the impact is destructive or benign, whether it destroys impacted environment, alters its functioning, or slightly alters the environment itself.		
	Minor (MI)	The impact alters the affected environment in such a way that the natural processes or functions are not affected.	2
	Low (LO)	The affected environment is altered, but functions and processes continue, albeit in a modified way.	4
	Medium (ME)	The impact alters the affected environment in such a way that the natural processes or functions are modified to a great extent.	6
	High (HI)	Function or process of the affected environment is disturbed to the extent where it temporarily or ceases.	8
	Very High (VH)	Function or process of the affected environment is disturbed to the extent where it permanently ceases.	10
EXTENT	These are geographic boundaries that reflect the physical area in which an impact occurs.		
	Footprint (F)	The impacted area extends only as far as the activity, including the total footprint occurring within the total site area.	1
	Site (S)	The impact could affect the whole, or a significant portion of the site.	2
	Regional (R)	The impact could affect the area including the neighboring properties, the transport routes and the adjoining towns or suburbs.	3

ASPECT	CATEGORY	DESCRIPTION	SCORE
	National (N)	The impact could have an effect that expands throughout the country (South Africa).	4
	International (IN)	Where the impact has international ramifications that extend beyond the boundaries of South Africa.	5
DURATION	Duration pertains to the length of time that the environmental impact will be felt by the affected entities.		
	Short term (ST)	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.	1
	Short to Medium Term (SMT)	The impact will be relevant through to the end of a construction phase.	2
	Medium term (MT)	The impact will last up to the end of the development phases, where after it will be entirely negated.	3
	Long term (LT)	The impact will continue or last for the entire operational lifetime of the development, but will be mitigated by direct human action or by natural processes thereafter.	4
	Permanent (P)	This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.	5
PROBABILITY	This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time.		
	Improbable (IM)	The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0%).	1
	Possible (PO)	The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25%.	2
	Likely (L)	There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50%.	3
	Highly Likely (HL)	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75%.	4
	Definite (D)	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100%.	5

ASPECT	CATEGORY	DESCRIPTION	SCORE
REVERSIBILITY	This describes the degree to which an impact on an environmental parameter can be successfully reversed upon completion of the proposed activity.		
	Completely Reversible (CR)	The impact can be completely reversed with the implementation of the correct mitigation and rehabilitation measures as stipulated in the Environmental Management Programme.	90-100%
	Partly reversible (PR)	The impact can be partly reversed providing that mitigation measures as stipulated in the Environmental Management Programme are implemented and rehabilitation measures are undertaken.	6-89%
	Irreversible (IR)	The impact cannot be reversed, regardless of the mitigation or rehabilitation measures taking place	0-5%
RESOURCE LOSS	This describes the degree to which environmental resources will be irreplaceably lost as a result of proposed activity		
	Resource will not be lost (RL)	The resource will not be lost or destroyed provided that mitigation and rehabilitation measures as stipulated in the Environmental Management Programme are implemented.	90-100%
	Resource may be partly destroyed (RPD)	Partial loss or destruction of the resources will occur even though all management and mitigation measures as stipulated in the Environmental Management Programme are implemented.	1-89%
	Resource cannot be replaced (RR)	The resource cannot be replaced no matter which management or mitigation measures are implemented.	0%
MITIGATIBLE	This refers to the degree to which impacts can be mitigated.		
	Completely Mitigatable (CM)	The impact can be completely mitigated providing that all management and mitigation measures as stipulated in the Environmental Management Programme are implemented	90-100%
	Partly mitigatable (PM)	The impact cannot be completely mitigated even though all management and mitigation measures as stipulated in the Environmental Management Programme are implemented. Implementation of these measures will provide a measure of mitigatability.	1-89%
	Un-mitigatable (UN)	The impact cannot be mitigated no matter which management or mitigation measures are implemented.	0%

8.1.1 CUMULATIVE IMPACTS

According to DEAT 2002, cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period of time.

Table 8-2: Categories for Cumulative Impact

<i>CATEGORY</i>	<i>DESCRIPTION</i>
Marginal	Insignificant
Compounding	Increased impact

8.1.2 STATUS

Table 8-3: Categories for the Status of the Impact

<i>CATEGORY</i>	<i>DESCRIPTION</i>
Positive	Impacts have a positive socio-economic and environmental benefits.
Negative	There are negative socio-economic and environment impacts.

8.1.3 SIGNIFICANCE

The potential impacts are assigned a significance rating (S), based on the information in the tables above. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics. The significance of the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required. Where the impact is positive, significance is noted as "positive". (S) is formulated by adding the sum of numbers assigned to Extent (E), Duration (D), and Intensity (I) and multiplying the sum by the Probability.

$$S = (E + D + I) P$$

Table 8-4: Significance Ratings of Impacts

CATEGORY	DESCRIPTION	SCORE
Zero Impact	No impact	0
Low	Mitigation of impacts is easily achieved where this impact would not have a direct influence on the decision to develop in the area.	<30
Medium	Mitigation of impact is both feasible and fairly easy. The impact could influence the decision to develop in the area unless it is effectively mitigated.	30-60
High	Significant impacts where there is difficult. The impact must have an influence on the decision process to develop in the area.	>60

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8.2 DETERMINATION OF IMPACT SIGNIFICANCE

ISO 2001:2004 defines an impact as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspect whilst an environmental aspect is defined as an element of an organization's activities or products or services that can interact with the environment. The significance of the impacts are defined in consideration of legislation in the context of the environmental aspect, issues identified through public/stakeholder consultation, Section 8.2.1 to 8.2.6 therefore discusses impacts that are deemed to be of med-high significance whilst Section 8.2.7 summarizes all impacts anticipated during the project life cycle. Of note is that there is little differentiation between the proposed alternatives assessed, either-way, the area will be impacted upon during both the construction and operational phase of the project. The table below therefore gives an assessment of the project area. It should also be noted that mitigations measures given in the tables below are not exhaustive as they are fully discussed in the EMPr appended to this report

8.2.1 IMPACTS DURING THE CONSTRCTION PHASE

Aspect	Impact summary	Significance	Proposed mitigation
Fauna and Flora	<ul style="list-style-type: none"> Minor construction related impacts are anticipated The removal of vegetation, may have an adverse (but localised) impact on certain avifauna as well as certain mammal species such as bush babies that typically inhabit trees. The spread of exotic species may result from construction activities. This may have far reaching implications in the area of the 	This impact is considered to very low significance (local extent, low intensity, short term duration and definite).	<ul style="list-style-type: none"> Before any construction takes place the proposed area for the development will be pegged out. All construction activities will be limited to these areas in order to reduce the footprint of the proposed activity and avoid impact on adjacent natural vegetation and animal life. Effective planning of the construction operations.

Aspect	Impact summary	Significance	Proposed mitigation
	<p>proposed site as a whole if this is not controlled.</p> <ul style="list-style-type: none"> • There would also be a high impact on the vegetation on the site, as most of the natural vegetation would need to be cleared. 		<ul style="list-style-type: none"> • Construction areas should be fenced off or barricaded prior to and during construction. • Site clearing is to be limited to only the area necessary for carrying out the specified works. • Significant indigenous trees and landscaped areas to be retained are to be clearly demarcated as “no-go” areas prior to earthworks commencing and are to be protected as such for the duration of the construction phase. • The contractor is to draw up a plan for submission to the ECO and the abattoir manager indicating the locations of construction infrastructure including the site-camp, paint or cement cleaning pits, toilets, stores, site office, and “no-go” areas. • The site boundary is to be clearly demarcated and screened from the commencement of works. The erection

Aspect	Impact summary	Significance	Proposed mitigation
			<p>of the final boundary fence or wall is preferable.</p> <ul style="list-style-type: none"> • All sensitive environments or “no-go” areas are to be demarcated with a wire and danger-tape temporary barrier fence attached to planted posts (wooden or metal) at a minimum. • No Unauthorised entry, stockpiling, dumping or storage of equipment in “no-go” areas, or outside the site boundary is permitted. • Should the only means of completing specified work be to enter “no-go” areas, authorisation must be provided in writing by the ECO. • All trees and natural features to be retained and protected are to be indicated on the site plan and demarcated. Demarcation is to remain in place for the duration of the work on site.

Aspect	Impact summary	Significance	Proposed mitigation
General Waste	General (rubble, soils, litter) and hazardous (diesel, oils, cement) waste will be generated during construction. Improper management of these wastes may result in the pollution of local soils	If mitigation measures are correctly implemented, potential environmental impacts emanating from the generation of waste are considered to be insignificant (local extent, low intensity, short term duration and improbable).	<p>A construction refuse collection structure shall be erected on commencement of construction work within the boundaries of the site. The minimum requirement is as follows:</p> <ul style="list-style-type: none"> • 4 ready-fence panels (3m x 1.8m) covered with shade cloth or hessian, one panel being movable to provide access. The structure shall have a roof (ready fence panel, or similar) to contain waste materials in windy conditions. The floor shall be lined with DPC plastic to prevent ground contamination from leachate such as cement powder residue or empty chemical or paint containers. • Alternatively, refuse skips can be used but also need to be covered with shade cloth to ensure the containment of waste. • Refuse bins shall be provided for domestic waste (lunch litter) and placed in designated eating areas and any other areas where deemed necessary to control littering.

Aspect	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • Refuse bins are not to overflow and are to be emptied regularly. No littering is permitted on site. • Building rubble is to be kept separate from other construction waste. Rubble is to be kept clean of brick ties, plastics, papers and cement bags at all times. • Rubble stockpiles and refuse structures shall be positioned to permit easy access by removal trucks. • Accumulation of large stockpiles of rubble and waste is not permitted. Waste is to be removed at regular intervals at a minimum frequency of once a week. • All waste is to be disposed of at approved landfill sites, no burning or burying is permitted. <p>The contractor shall delegate a specific waste management job description to an individual or team if directed by the ECO.</p>

Aspect	Impact summary	Significance	Proposed mitigation
<u>Air Quality</u>	Short-term negative impacts on the air quality will occur from heavy equipment, dust and exhaust fumes during construction	This impact is considered to very low significance (local extent, low intensity, short term duration and definite).	<ul style="list-style-type: none"> • All areas impacted by construction shall be regularly maintained including roads and pavements. • A dustcart needs to be onsite to water down dusty roads on dry windy days. • Speed bumps or traffic speed signs need to be erected to reduce speeding onsite, which could result in the generation of dust. • Regular maintenance of vehicles to address wear of tyres and breaks. Optimal engine combustion will allow for 'cleaner' exhaust emissions.

Aspect	Impact summary	Significance	Proposed mitigation
Soil Erosion and Geology	<ul style="list-style-type: none"> • Soil erosion due to soil disturbances from bulk earthworks. • Spillage of fuel or oil leaks from construction vehicles may result in the contamination of soil and groundwater. • Care should be taken not to contaminate topsoil in cases of negligent fuel storage and cement mixing. 	<p>This impact is considered to very low significance (local extent, low intensity, short term duration and definite).</p>	<ul style="list-style-type: none"> • Topsoil (top 150mm) is to be stockpiled in discrete areas and retained for future landscaping efforts. • Topsoil stockpiles shall not exceed 1m in height and 2m in width and shall be protected from wind, erosion and runoff by covering with a suitable fabric approved by the ECO. Once earthworks are complete, disturbed areas are to be re-vegetated or rehabilitated. • Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention. • Stockpiles of vegetation are only to be located in areas and may not exceed 2m in height. Methods of stacking must take cognizance of the possible creation of a fire hazard. • No burning of stockpiled vegetation is permitted. • The contractor is to ensure that all reasonable measures are taken to limit erosion and sedimentation from

Aspect	Impact summary	Significance	Proposed mitigation
			<p>construction activities. Erosion protection measures include cut-off drains and/or berms.</p> <ul style="list-style-type: none"> • Any sub-soil or rocks removed should also be stockpiled separately and be used during the rehabilitation. • Once the construction activities have been completed, the remaining disturbed area must be top soiled, sloped and re-vegetated as soon as possible using suitable grass species. This re-vegetation will assist in reducing the potential of erosion. <p>Compacted soil should be ripped to ensure effective re-vegetation</p>

Aspect	Impact summary	Significance	Proposed mitigation
<u>Visual Intrusion</u>	<p>The establishment of the construction site, as well as the removal of vegetation in the footprint of the development is likely to alter the visual environment thus affecting the 'sense of place' of this part of the site. The movement of construction vehicles through the village may be associated with a visual impact.</p>	<p>This impact is considered to very low significance (local extent, low intensity, short term duration and definite).</p>	<ul style="list-style-type: none"> • Cordon off construction site with shade-cloth or other material.. • Construction traffic must stick to designated routes. • As much vegetation as possible must be retained to screen off the construction site from potential sensitive receptors. • No lighting, unless absolutely necessary should be placed at the construction site. • The site shall be kept visually and aesthetically pleasing, especially in and around the construction camp. <p>The ECO shall regularly inspect the site to ensure that it is neat and clean.</p>

Aspect	Impact summary	Significance	Proposed mitigation
<u>Noise</u>	Short-term impacts from increased noise levels will occur during construction of the proposed project	This impact is considered to very low significance (local extent, low intensity, short term duration and definite).	<p>The site workers and contractors will adhere to the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p> <ul style="list-style-type: none"> • Regular maintenance of vehicles and equipment. • All plant and machinery are to be fitted with adequate silencers. • Working hours should be restricted to daylight hours. • Working procedures should be structured so as to avoid the unnecessary generation of noise. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site. • If work is to be undertaken outside of normal work hours permission must be obtained from the ECO. • No noisy work is to be conducted over the weekends or on religious public holidays.

Aspect	Impact summary	Significance	Proposed mitigation
<p><u>Hazardous Construction Waste</u></p>		<p>This impact is considered to very low significance (local extent, low intensity, short term duration and definite).</p>	<ul style="list-style-type: none"> • Proper handling, storage and disposal of hazardous chemicals. All fuels and flammable materials are to be handled safely, stored safely and clearly labelled. • Flammable materials are to comply with standard fire safety regulations. • Drip trays must be used to collect spillage from equipment, vehicles and plant. These should be emptied regularly into secondary containers. • Fuels and flammable materials are to be handled in a safety conscious manner. • If refueling on site or from drums, the ground must be protected and proper dispensing equipment is to be used i.e. hand pumps and funnels. Drums may not be tipped to dispense fuel. • All fuels and flammable materials are to be stored safely and clearly labeled. • Safety signage including “No Smoking”, “No Naked Lights” and “Danger”, and product identification signs, are to be clearly displayed on fuel stores and tanks.

Aspect	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • All liquid fuels (petrol and diesel) are to be stored in tanks or containers with lids. • Fuel and flammable materials are to be kept under lock and key at all times and are to be stored at a central, easily accessible location. • Storage areas for fuels and flammable materials are to comply with standard fire safety regulations. • Adequate fire-fighting equipment shall be available close at hand and no smoking is permitted within the vicinity of storage areas.

Aspect	Impact summary	Significance	Proposed mitigation
<u>Ablution facilities</u>	Prevent the contamination of the soil, surface- and ground-water	This impact is considered to very low significance (local extent, low intensity, short term duration and improbable).	<ul style="list-style-type: none"> • Sufficient ablution facilities shall be provided – minimum of 1 toilet per 15 workers. • Plumbed facilities are preferred. Chemical facilities are to be serviced regularly. • Toilets should have properly closing doors and supplied with toilet paper. • The location of toilets is to be approved by the ECO prior to site establishment, but shall be located within 100m of any work point. • Chemical toilets are to be serviced weekly. The contractor is to ensure that no spillage occurs and that the contents are removed from site according to approved methods. • Chemical toilets are to be emptied prior to temporary site closure for a period longer than 4 days. • Only the use of ablution facilities will be permitted onsite. • All reasonable measures must be taken to prevent the dirty water from contaminating the nearby Pan.

Aspect	Impact summary	Significance	Proposed mitigation
<u>Social Impacts from Construction Crew</u>	Social Impacts may emanate from the construction crew during the construction phase. Construction crews both locally and from other areas may see the promulgation of social vices which include breaching of local values and norms, increase in crime rates	This impact is considered to be of high significance (local extent, high intensity, short term duration and probable).	Construction workers should be confined to their construction camps, there should be monitoring of these workers and ground rules set for their conduct on and off site

8.2.2 IMPACTS DURING THE OPERATIONAL PHASE

<u>Aspect</u>	<i>Impact Summary</i>	Significance	Proposed Mitigation
<u>Vermin</u>	Large quantities of stored feed and stored litter have the potential to attract a variety of animals that are considered vermin. Incorrectly stored waste could lead to the development of odours	This impact is considered to be of high significance (local extent, high intensity, short term duration and probable).	Feed supplies and breeding sites used by pests are eliminated from the farm. For example, feed spills and carcasses must be cleaned up quickly, and breeding sites and harbours are eliminated by keeping grass around sheds mown, the farm tidy and the environment as dry as possible
<u>Biosecurity</u>	Pests increase the risk of disease on farm and can be an environmental health risk to humans. They	This impact is considered to be of low significance	

	also damage shedding and equipment. Pests that may affect the project include rodents (rats and mice), wild birds, flies, manure beetles, mosquitoes, cats, dogs, and external parasites like mites	(local extent, high intensity, short term duration and probable).	Rodents, flies and feral animals should be controlled and dead birds disposed of properly to avoid attracting these unwanted pests
<u>Lighting</u>	External lighting used at the project site may be a nuisance to nearby residences Stray lighting from vehicle headlights, security lighting and sheds lit to maintain regular light periods can be intrusive to neighbouring residences. Stray light and shadows moving through processing plant and associated facilities may also panic the animals and result in increased mortalities	This impact is considered to be of high significance (local extent, high intensity, short term duration and probable).	Orientation of the processing plant and associated facilities should ensure optimal use of natural lighting thereby making energy savings as well as minimizing the impact of stray lighting
<u>Litter /dung</u>	Dung / Litter is an excellent fertilizer if used properly. Land application of dung/ litter returns nutrients and organic matter to the soil and builds soil fertility and quality	This impact is considered to be of low significance (local extent, low intensity, short term duration and improbable).	Sustainable use of used litter as a fertilizer is achieved by applying the litter at a rate (tonnes/ha) that meets the nutrient requirements for plant growth (crop or pasture). Additional nutrients may need to be added to balance nutrient levels to meet plant requirement
<u>Health impact to workers</u>	There is a possibility that the workers at the project may develop adverse health reactions. The workers may develop acute and chronic lung	This impact is considered to be of	There is a need for there to be regular medical surveillance of staff at the farm, initial medical

	diseases, musculoskeletal injuries and may catch infections that transmit from animals to human beings	high significance (local extent, high intensity, short term duration and probable	checkups should be done to employees before they commence their duties
<u>Emolymment Creation</u>	Permanent jobs will be created during operational phase of the project.	This impact is considered to be of high significance (local extent, high intensity, long term duration and probable	Some farmers have experienced the fact that if the person next door does some work on the farm the complaints from the locals are less likely. If the nlocals see a direct personal benefit of employment from your farm, particularly for their teenagers, they tend to become more tolerant. However, realize there are significant other factors to consider in hiring and possibly laying off a local

8.2.4 IMPACTS DURING THE DECOMMISSIONING PHASE

<u>Aspect</u>	<u>Impact Summary</u>	<u>Significance</u>	<u>Proposed Mitigation</u>
<u>Soil Erosion</u>	Increased soil erosion due to vegetation disturbance associated with decommissioning activities	This impact is considered to be of low significance (local extent, high intensity, short term duration and probable).	Cleared areas must be revegetated as soon as possible after decommissioning
<u>Groundwater Quality</u>	Local groundwater quality deterioration due to oil and fuel spills and waste dumping at the site	This impact is considered to be of high significance (local extent, high intensity, short term duration and probable).	Generators and fuel supply used during decommissioning should be placed on trays, which rest on clean sand. Once decommissioning is completed this should be removed from the site and disposed of at an appropriately registered land fill
<u>Alien Species Invasion</u>	Increased invasion by exotic as well as alien plant species following vegetation disturbances Trampling and disturbance of indigenous vegetation	This impact is considered to be of low significance (local extent, low intensity, short term duration and probable)	Invasive exotic plants and weeds must be eradicated on the property Indigenous plants should be used for ornamental or utilitarian purposes in gardens and as visual screens

<p><u>Noise</u></p>	<p>Decommissioning activities and machinery will generate noise</p>	<p>This impact is considered to be of medium significance (local extent, medium intensity, short term duration and probable)</p>	<p>Decommissioning activities should be limited to operating hours of 7am -5pm No loud music should be played on site No decommissioning activities should be carried out during the weekends or public holidays</p>
<p><u>Air quality</u></p>	<p>Air quality could adversely be deteriorated by increased decommissioning machinery and vehicle emissions at the site</p>	<p>This impact is considered to be of medium significance (local extent, medium intensity, short term duration and probable)</p>	

9. CONCLUSION

9.1 ENVIRONMENTAL IMPACT STATEMENT

- ❑ An Environmental Control Officer (ECO) must be appointed to oversee the construction process and ensure compliance with conditions of approval;
- ❑ Demarcate sensitive areas and no-go areas with danger tape to prevent disturbance during construction;
- ❑ Only clear larger vegetation that will impact directly to the conductors. No total clearing of the basal layer" must be allowed in the Critical Biodiversity Area;
- ❑ Plan construction times in such a manner to have the least impact on surrounding properties;
- ❑ Monitor land surface in the vicinity of the substation, access roads and pylons to prevent loss of vegetation and first signs of desertification;
- ❑ Create a channel for runoff to avoid numerous runoff channels that erode the soil;
- ❑ Re-vegetate cleared soil after construction, for the control of soil erosion and water capacity
- ❑ Monitor the establishment of alien invasive species within the areas affected by the construction and maintenance of the power line and take immediate corrective action where invasive species are observed to establish;

9.2 ENVIRONMENTAL MANAGEMENT PROGRAMME

An Environmental Management Programme (EMPr) is a plan that seeks to achieve a required end state and describes how activities that have or could have an adverse impact on the environment, will be mitigated, controlled and monitored. An EMPr was compiled as per Appendix 4 of the EIA Regulations Government Notice R982 as amended and it discusses the impacts that are expected during the construction phase, operational phase and the mitigation measures that have been recommended to minimize the impacts. This document also identifies corrective actions if monitoring indicates that the performance requirements have not been met and notifies the responsible parties to undertake the actions required. Integrated Environmental Management (IEM) principles influenced the development of these measures, which are aimed at achieving broadly acceptable standards at minimum costs. These measures, procedures and monitoring guidelines are designed to ensure that the impacts anticipated as a result of the proposed development are limited to the acceptable significance predicted in this study. The EMPr is attached in Appendix G.

9.3 CONCLUSION

In addition to the negative impacts, the project will also have positive impacts such as adequate electricity supply, employment during the construction phase and will encourage the growth and

emergence of small businesses. The implementation of the mitigation measures outlined in the EMPr will lessen the significance of the identified impacts.

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