

## CHAPTER SIX: PLAN OF STUDY FOR EIA

### 6.1 INTRODUCTION

“When the competent authority accepts a Scoping Report and POS for EIA, the EIA may commence.” The purpose of the EIA is to:

- Address issues that have been raised through the Scoping Process;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance of each impact; and
- Formulate mitigation measures

Public Participation is an essential part of the EIA process. During the EIA process, public participation is conducted in accordance with the plan of study for EIA as opposed to the minimum requirements set out in the regulations.

After the different aspects of the assessment have been undertaken, including any specialist studies and specialised processes, an EIA report is compiled, which must contain at least the information listed in the Regulations, including a draft environmental management plan.” (Guideline 3: General Guide to the EIA Regulations, 2006)

The Scoping Report provides a project description and an overview of the issues and concerns raised by I&APs as well as specialists which provides the context for this Plan of Study for Environmental Impact Assessment. The Plan of Study as contained in this section of the report provides an overview of how the EIA for the proposed expansion of agriculture on River Bend Citrus Farm will proceed during the Environmental Impact Assessment Phase, which includes the public consultation process and specialist studies forming part of this assessment. The findings of the Scoping Process include input from the project proponents, technical team and specialists, as well as I&APs; and have been used to inform the approach to the EIA and scope of specialist studies to be undertaken.

The EIA process consists of three overlapping processes:

- A central assessment process involving authorities where inputs are integrated and presented in documents that are submitted for approval by the authorities (described in section 6.3.1.1)
- A specialist process which provides the necessary technical and legal input (section 6.2 below)
- A public participation process which communicates the findings of the various studies undertaken (section 6.3.1)

### 6.2 OVERVIEW OF THE APPROACH TO THIS EIA

The integrated environmental management process for this project was initiated in February 2012 through a site visit by Public Process Consultants (Paul-Pierre Steyn & Marisa Jacoby) which assisted in the identification of issues that required specialist assessment. This has further been refined through the I&AP consultation process for the preparation of the Scoping Report.

The table below provides an overview of the specialist studies that have been identified to form part of this assessment. The main objective of the specialist studies is to provide independent, scientifically sound information on issues of concern relating to the project proposal.

**Table 6.1** Proposed list of specialist studies and specialists

<b>Specialist Study</b>	<b>Broad Scope of Assessment</b>	<b>Proposed Specialist</b>
Biophysical / Ecological Assessment	To include an assessment of the potential impacts on vegetation and fauna (desk top) as well as the delineation sensitive no-go areas.	Marisa Jacoby & Paul-Pierre Steyn, Public Process Consultants
Wetland Assessment	Identification and delineation of watercourses and wetlands, as well as recommendations for management and no-go areas.	Dr Brian Colloty, Sherman-Colloty & Associates
Phase 1 Archaeological Assessment	To determine Archaeological features on site	Dr Johan Binneman
Palaeontological	Desk top assessment	Dr John Almond
Soil suitability Assessment	Soil suitability assessment to determine the Agricultural potential, future agricultural development, crop suitability	SGS NVIROCROP (Pty) Ltd
<b>TECHNICAL TEAM (See Note 1)</b>		
Irrigation	Estimate the demand for water and size of the dam to be constructed on site	To be appointed

Section 6.3.3 below outlines the scope of the specialist studies and Terms of Reference.

The results of the specialist studies and other relevant project information will be integrated into the Draft Environmental Impact Assessment Report. The methodology utilized for the identification and ranking of impacts is outlined in Section 6.3.2 below.

The Draft EIA will be released for a 30 day I&AP and authority review period, outlined in section 6.3.1 and 6.3.1.1 respectively. All I&APs on the project database will be notified in writing of the release of the Draft EIA for review. No public meetings are proposed to be held during this period but focus group meetings will take place with key I&APs upon request. Comments raised, through written correspondence (emails, comment forms) and at meetings held will be captured for inclusion in a Comments and Responses Trail for inclusion in the Final EIA. Comments raised will be responded to by the EAP, applicant and/or relevant specialist which will indicate how the issue raised is dealt with in the EIA or in the EMP. Should the comment received fall beyond the scope of this EIA clear reasoning will be provided. All comments received will be attached as an appendix to the Final EIA.

The Draft EIA will include a draft EMP which will be prepared in compliance with the relevant regulations. Actions in the EMP will be drawn primarily from the management actions in the specialist studies for the construction and operational phases of the project.

If the project components are decommissioned or re-developed, this will need to be done in accordance with the relevant environmental standards and clean-up/ remediation requirements applicable at the time.

### 6.2.1 The NEMA EIA Regulations 2010

This EIA process has been undertaken in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended (“NEMAA”) and the NEMA EIA regulations, 2010, GN R 543, 544, 545 and 546 published in Government Gazette 33306 on the 2 August 2010 (as amended), in particular GN R543 of the NEMA EIA Regulations, 2010, which governs the procedural requirements of the Scoping and Environmental Impact Assessment process. Listed activities, for which Environmental Authorisation is being sought through this process, have been identified in terms of GN R544, 545, and 546 of the NEMA EIA Regulations, 2010. The relevant activities are contained in Chapter Four of this report.

## 6.3 ENVIRONMENTAL IMPACT ASSESSMENT REPORT AND EMPr

The following section of this report provides the reader with information on the Environmental Impact Assessment Phase of the EIA process including public participation as well as an outline of the approach to the assessment of impacts.

### 6.3.1 PUBLIC PARTICIPATION PROCESS

The following section outlines the various steps to be followed in the public participation process for the EIA. The participation process for the Scoping Process is outlined in detail in Chapter Four of this report.

#### **Task 1: Compile Draft Environmental Impact Report and EMPr**

The first stage in the process will entail the compilation of the Draft Environmental Impact Assessment (EIA) and EMPr for a 30 day public and authority review period. The Draft EIA and EMPr will be compiled based on the specialist studies conducted for the project as outlined in the Final Scoping Report. All I&APs on the project database will be notified in writing of the 30 day review period via Letter 4.

#### **Task 2: Review of the Draft EIA (and EMPr) and Ongoing Communication**

The Draft EIA and EMPr will be made available for a 30 day review period. The following indicates the public participation process that will be implemented for the public review of the Draft EIA and EMPr in order to facilitate access to information and receive comments on the Draft EIA:

- Letter 4 to I&APs: All I&APs on the project database will be notified in writing of the release of the Draft EIA and EMPr for public review. Included with this notification will be an executive summary of the Draft EIA and a comment form.
- Key I&APs (Councillor and affected organs of state) will be provided with either a hard copy or CD version of the report.
- Report to be placed on the project website [www.publicprocess.co.za](http://www.publicprocess.co.za)
- Focus Group Meetings – one on one meetings with key I&APs, while not planned to form part of this process, will be held upon request. Notes from meetings held will be included as an appendix to the Final EIA Report as well as be included in the comments and responses trail.
- Authority Consultation – where possible, affected organs of state will be consulted and their input will be included in the Final EIA.

### **Task 3: Comments and Responses Trail**

A key component of the EIA process is documenting and responding to the comments received from I&APs and the authorities. Comments on the Draft EIA Report and EMPr will be received and documented as follows:

- Written and email comments (letters and completed comment forms)
- Telephonic communication
- Comments made at one on one meetings with key authorities and/ or I&APs

The comments received will be compiled into a Comments and Responses Trail for inclusion in the Final EIA. The Comments and Responses trail will indicate the nature of the comment, when and who raised the comment. The comments received will be considered by the EIA team and appropriate responses provided by the relevant member of the team and/or specialist. The response provided will indicate how the comment received has been considered in the Final EIA, in the project design, or in the EMPr for the project. Where the comment received falls outside of the scope of the EIA this will as far as possible be clearly indicated and reasons provided. Input from the project technical team may be required in responding to some of the comments received.

### **Task 4: Compilation of the Final EIA and Submission to Authorities**

The Final EIA, including the comments and responses trail and EMPr will be compiled for submission to the DEDEAT for decision making. The following process will be followed regarding the notification to I&APs and authorities for the submission of the Final EIA.

- Report Distribution
  - Relevant organs of state and key I&APs will be provided with a hard copy or CD version of the report
  - Report to be placed on the project website [www.publicprocess.co.za](http://www.publicprocess.co.za)
- Letter 5 to I&APs: notification of submission of Final EIA, and making I&APs aware that comments on the final report should be made directly to the competent authority

### **Task 5: Decision on Application and Appeal Period**

All I&APs on the project database will be notified of the outcome of the decision-making process (Environmental Authorisation / Notice of Refusal), as well as the Appeal period (Letter 6 to I&APs). The following process will be followed:

- A copy of the Environmental Authorisation / Notice of Refusal to be placed on the project website [www.publicprocess.co.za](http://www.publicprocess.co.za)
- Letter 6 to I&APs: Notification of the Decision and Appeal Period
- A notification of the Decision and appeal period will be placed in a local newspaper

All I&APs on the project database will be notified of the outcome of the appeal period if applicable, this notification will be included in Letter 7 to I&APs.

#### **6.3.1.1 Authority Consultation**

It is proposed that the competent authority (DEDEAT) is consulted at various stages during the EIA process. The authority consultation process for the Scoping Process is outlined in Section 4.4 of this report. The table below indicates the proposed consultation schedule for the EIA.

**Table 6.2:** Authority consultation schedule

Stage in EIA Phase	Form of Consultation
1. After the initial comment period - during preparation of the Final Scoping Report and Plan of Study for EIA	Communication with DEDEAT
2. After completion of specialist studies - during preparation of Draft EIA Report and EMP	Written communication with DEDEAT.

### 6.3.2 GENERIC TERMS OF REFERENCE FOR THE ASSESSMENT OF IMPACTS

The following section outlines the assessment methodology and legal context for specialist studies. (Section 3: Assessment of Impacts, in DEAT Guideline 5, June 2006). The identification of potential impacts should include impacts that may occur during the **construction and operational phases** of the activity. The assessment of impacts is to include **direct, indirect as well as cumulative impacts**.

In order to identify potential impacts (**both positive and negative**) it is important that the nature of the proposed activity is well understood so that the impacts associated with the activity can be understood. The process of identification and assessment of impacts will include:

- Determine the current environmental conditions in sufficient detail so that there is a baseline against which impacts can be identified and measured.
- Determine future changes to the environment that will occur if the activity does not proceed.
- An understanding of the activity in sufficient detail to understand its consequences; and
- The identification of significant impacts which are likely to occur if the activity is undertaken

As per Guideline Document 5: Assessment of Alternatives and Impacts the following methodology is to be applied to the predication and assessment of impacts. Potential impacts should be rated in terms of the **direct, indirect and cumulative**.

- **“Direct** impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
- **Indirect** impacts of an activity are indirect or induced changes that may occur as a result of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
- **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 and can include both direct and indirect impacts.” DEAT (2006).
- **Spatial extent** – The size of the area that will be affected by the impact
  - Site specific
  - Local (<2 km from site)

- Regional (within 30 km of site)
- National
  
- **Intensity** –The anticipated severity of the impact
  - High (severe alteration of natural systems, patterns or processes)
  - Medium (notable alteration of natural systems, patterns or processes)
  - Low (negligible alteration of natural systems, patterns or processes)
  
- **Duration** –The timeframe during which the impact will be experienced
  - Temporary (less than 1 year)
  - Short term (1 to 6 years)
  - Medium term (6 to 15 years)
  - Long term (the impact will cease after the operational life of the activity)
  - Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient)

***Using the criteria above, the impacts will further be assessed in terms of the following:***

- **Probability** –The probability of the impact occurring
  - Improbable (little or no chance of occurring)
  - Probable (<50% chance of occurring)
  - Highly probable (50 – 90% chance of occurring)
  - Definite (>90% chance of occurring)
  
- **Significance** – Will the impact cause a notable alteration of the environment?
  - Low to very low (the impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making)
  - Medium (the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated).
  - High (the impacts will result in major alteration to the environment even with the implementation of the appropriate mitigation measures and will have an influence on decision-making)
  
- **Status** - Whether the impact on the overall environment will be positive, negative or neutral
  - “+” (positive - environment overall will benefit from the impact).
  - “-”(negative - environment overall will be adversely affected by the impact).
  - “o” (neutral - environment overall will not be affected).
  
- **Reversibility** – The degree to which the potential impacts can be reversed
  - Reversible
  - Partially Reversible
  - Irreversible
  
- **Confidence** – The degree of confidence in predictions based on available information and specialist knowledge
  - Low
  - Medium
  - High

- **Management Actions and Monitoring of the Impacts (EMPr)**

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, mitigatory measures will be identified to potentially enhance positive impacts.
- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure their ongoing effectiveness.

The table below is to be used by specialists for the rating of impacts.

**Table 6.3:** Table for rating of impacts

Nature of the Impact	This should include a description of the proposed impact to indicate if the impact is a direct, indirect or a cumulative impact.
Extent	Site specific, local, regional or national
Duration	Temporary, short term, medium term, long term or permanent
Intensity	High, medium or low
Probability	Improbable, probable, highly probable, definite
Degree of Confidence	Low, medium or High
Status and Significance (without mitigation)	Low, medium or High indicating whether Positive (+), Negative (-) or Neutral (o)
Reversibility	Reversible, Partially Reversible, Irreversible
Mitigation	Overview of mitigatory measures to mitigate potentially negative impacts or enhance potential positive impacts indicating how this mitigatory measure impacts on the significance of the impact
Status and Significance (after mitigation)	Low, medium or High indicating whether the status of the impact is Positive (+), Negative (-) or Neutral (o)

Other aspects to be taken into consideration in the assessment of impact significance are:

- Impacts will be described both before and after the proposed mitigation and management measures have been implemented.
- Impacts will be evaluated for the **construction and operational phases** of the project
  - **NOTE:** No assessment of impacts during the decommissioning phase of the project is proposed. The relevant guidelines and rehabilitation requirements applicable at that time will need to be applied.
- The impact evaluation will, where possible, take into consideration the **cumulative effects** associated with this and other facilities/projects which are either developed or in the process of being developed in the local area.
- The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national standards are to be used as a measure of the level of impact.

### 6.3.3 SPECIFIC ISSUES TO BE ADDRESSED IN SPECIALIST STUDIES

The following provides the Terms of Reference for each of the specialist studies as outlined in Table 6.1 above. Issues included in the specialist TOR have been identified through the specialist site visit, technical team meeting and I&AP and authority consultation. Additional issues, identified

through public and authority consultation during the Scoping phase, as well as specialist inputs, will be included in the final Terms of Reference for specialists (i.e. in the PSEIA in the Final Scoping Report).

### **6.3.3.1 Biophysical Assessment**

The vegetation assessment for the proposed development will include the following:

- Conduct a desktop assessment of available literature in order to identify and describe the status of the vegetation in terms of applicable local and regional conservation planning frameworks (NSBA, ECBCP, STEP)
  - Include the identification and evaluation of critical biodiversity areas and corridors
- Conduct field research in order to identify, map and describe the current state of the vegetation on site supported by relevant photographs
  - Identify and determine the relative abundance of species of special concern within the study area (Vulnerable, Endangered or Critically Endangered and Protected)
  - Identify and determine alien species present and their distribution within the study area.
  - Determine the density of the alien vegetation and the potential for post-removal recovery of indigenous vegetation
  - Provide a detailed vegetation sensitivity map of the site
  - Detailed mapping of disturbance and transformation on site
  - Identify and map sensitive or specialized habitats
- Identify and assess impacts on conservation areas, Addo Elephant National Park
- Identify and assess potential project related impacts (both positive and negative) for the construction and operational phases of the project using the prescribed methodology. Where feasible include the assessment of cumulative impacts.
- Outline mitigatory measures for the future management of potential project related impacts and include, where feasible, the individuals/organizations responsible for implementation
- Outline management recommendations for the construction and operational phases of the project

### **6.3.3.2 Faunal Assessment (to be included in biophysical assessment above)**

- Conduct a site visit and desktop review of available literature to determine whether the study area falls wholly or partially within the distribution range of species listed as Vulnerable, Endangered or Critically Endangered and Protected.
- Conduct fieldwork to identify potentially important or unique faunal habitat on site
- Identify and assess potential project related impacts (both positive and negative) for the construction and operational phases of the project using the prescribed methodology. Where feasible include the assessment of cumulative impacts.
- Outline mitigatory measures for the future management of potential project related impacts and include, where feasible, the individuals/organizations responsible for implementation
- Outline management recommendations for the construction and operational phases of the project

### **6.3.3.3 Wetlands & Drainage Lines**

- Identify and delineate wetlands and drainage lines.
- Analysis of the potential aquatic sensitivity of these features.
- Details of the Present Ecological State (PES) of each watercourse and wetland.



- Identify and rate potential environmental impacts in terms of acceptable EIA methodology provided by Public Process Consultants
- Identify mitigation for negative and positive impacts
- Make appropriate management recommendations for the Environmental Management Programme Report

#### **6.3.3.4 Paleontological Assessment**

- Undertake a desktop Assessment in order to determine the type and location of fossils that may be present within the study area.
- Identify and assess potential project related impacts as per the prescribed methodology.
- Make appropriate management or mitigation recommendations in order to address the impacts identified.

#### **6.3.3.5 Phase 1 Archaeological Assessment**

- The area will be surveyed on foot to find as many visible archaeological sites and features as possible.
- All sites, features and material will be recorded by GPS coordinates.
- Site, features, material and general environment will be photographically recorded.
- Compile a report and recommendations which include an assessment of the potential impacts as a result of the development on the sites and proposals for mitigation and/or protection - towards a Phase 2 and possible Phase 3 investigation.

#### **6.3.3.6 Soil Suitability Assessment**

- Undertake soil analysis to establish the suitability of the soil for the proposed crops.
- Identify potential constraints imposed on the proposed farming activity by the soil / landscape characteristics of the site
- Identify and assess project related impacts as per the prescribed methodology
- Make appropriate management or mitigation recommendations in order to address the impacts identified.

### **6.3.4 Technical Input**

The following technical input will be provided and considered in the EIA phase of the Assessment:

#### **6.3.4.1 Water Demand**

- An estimate of the increase in irrigation water usage and how this will be accommodated in the existing water entitlements.
- The determination of the size and configuration (design) of the balancing dam required for the storage of irrigation water.

#### **6.3.4.2 Infrastructure Layout**

- Design and configuration of internal roads, and irrigation infrastructure.

### 6.3.5 PROPOSED SCHEDULING OF EIA PHASE

Table 6.4 below outlines the proposed scheduling for the EIA phase of the assessment process.

**Table 6.4:** Proposed EIA schedule

<b>Activity</b>	<b>Date</b>
Initiate specialist studies in parallel to approval for POS for EIA	June 2012
Compile Draft Environmental Assessment	August 2012
Public Review of the Draft Environmental Impact Assessment	September 2012
Compile Final EIA and EMP and submit to Authorities	Early October 2012
Authority Decision making period and appeals	As per regulations