

# 2016

**PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED VRYHEID NETWORK  
STRENGTHENING WITHIN THE JURISDICTION OF SWELLENDAM LOCAL MUNICIPALITY IN THE WESTERN  
CAPE PROVINCE**

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## 1. INTRODUCTION

The Scoping phase of the Environmental Impact Assessment (EIA) process is fundamental as it allows for the identification of potential impacts on the environment, as well as facilitation of the process of compiling the EIA and Environmental Management Programme (EMPr). The draft Scoping Report (dSR) attached hereto has been compiled from information from the client, specialist studies, site visits, literature reviews as well as previous environmental studies conducted in the area; it therefore, provides a comprehensive baseline of the environment at the proposed site.

This Scoping Process has followed the appropriate standards and procedure for the EIA application, as set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended, and the EIA Regulations of December 2014. The Scoping Study includes a description of the various alternatives and indicates those alternatives, which should be pursued as part of the detailed assessment of the EIA process. Impact significance of the proposed activity on the environment will be assessed in the EIA phase with the assistance of the various specialist studies.

The purpose of this section is to outline how the EIA for the proposed Vryheid Network Strengthening Project will proceed during EIA phase. The detailed assessment phase of the EIA process entails the integration of the specialist studies for those potential impacts evaluated to be of significance. Relevant mitigation measures will be used to compile an EMPr. This section provides specific terms of reference and impact assessment methodology for utilisation by the specialist team. The Plan of study for EIA also outlines the remainder of the PPP as well as the process in terms of the NEMA EIA Regulations.

## 2. PURPOSE OF THE PLAN OF STUDY FOR EIA

The Plan of Study for EIA is intended to provide a summary of the key findings of the Scoping Phase and to describe the activities to be undertaken in the Impact Assessment Phase of the EIA process. According to Legislation the document is required to provide the following:

- A description of the tasks that will be undertaken as part of the EIA process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;
- An indication of the stages at which the competent Authority will be consulted;
- A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity;
- Details of the Public Participation Process (PPP) that will be conducted during the EIA process; and
- Any specific information required by the competent Authority.

The EAP will ensure that the entire process is undertaken as dictated by the Regulations.

### 3. ENVIRONMENTAL ISSUES IDENTIFIED DURING SCOPING

The primary environmental issues identified during the Scoping Phase were determined through a process of analysing the project scope of work and activities and the potential sources of impacts. The initial focus of the Scoping process was on the site alternatives that exist for the proposed Vryheid Network Strengthening project, which culminated in a desktop analysis; revision of existing information; historical data; consultation with I&APs and various site visits with the EIA team as well as independent site visits undertaken by the specialist team. The site visits were aimed at getting a view of the study area, thereby enabling the specialists and the EAP to conceptualise the study area.

Preliminary discussions on the status quo of the study area are included in this Scoping Report, which serves as a guide to the exploration of the alternatives. The issues identified were grouped into broad categories including the physical, bio-physical and socio-economic. During the EIA phase, the specialist studies will need to further examine the key impacts of each of the alternative sites; following which the significance of these impacts will be assessed in the EIA Report.

Following review by the Department of Environmental Affairs the following may be the outcome of this submission:

- Request that amendments be made to the Scoping Report;
- Reject the Scoping Report for given reasons (see Figure 1).

The Environmental Impact Assessment phase will be required for this project; therefore this plan of study proposes the approach and methodology of undertaking this phase.

### 4. EIA PHASE

The EIA process will be undertaken as set out in the EIA Regulations of December 2014 as depicted in Figure 1 below. The sections that follow will describe the purpose and procedure behind each phase.

#### 4.1 PURPOSE

The Environmental Impact Assessment procedures set out by the EIA Regulations (December 2014) will be followed in carrying out the application process with the relevant authorities. The following are the terms of reference for the completion of the EIA study and the purpose thereof:

- To facilitate authorization of the project in terms of the Environmental Impact Assessment Regulations of December 2014 made under sections 24(1, a & b) and 44 of the NEMA;
- Conduct consultation with the Authorities, Interested and Affected Parties through a social facilitation process;
- Find mechanisms for addressing in more detail, issues raised during the Public Participation Process;
- Evaluate concerns and prioritise important and detrimental issues which need to be addressed;
- Address issues that were raised during the Scoping Phase;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance of each impact;
- Develop an EMPr with associated mitigation measures; and
- To evaluate the suitability of the site for the proposed works.

#### **4.2 PROPOSED APPROACH AND METHODOLOGY**

Figure 1 below provides a schematic representation of the application procedure followed in order to obtain authorisation to commence with a listed activity.

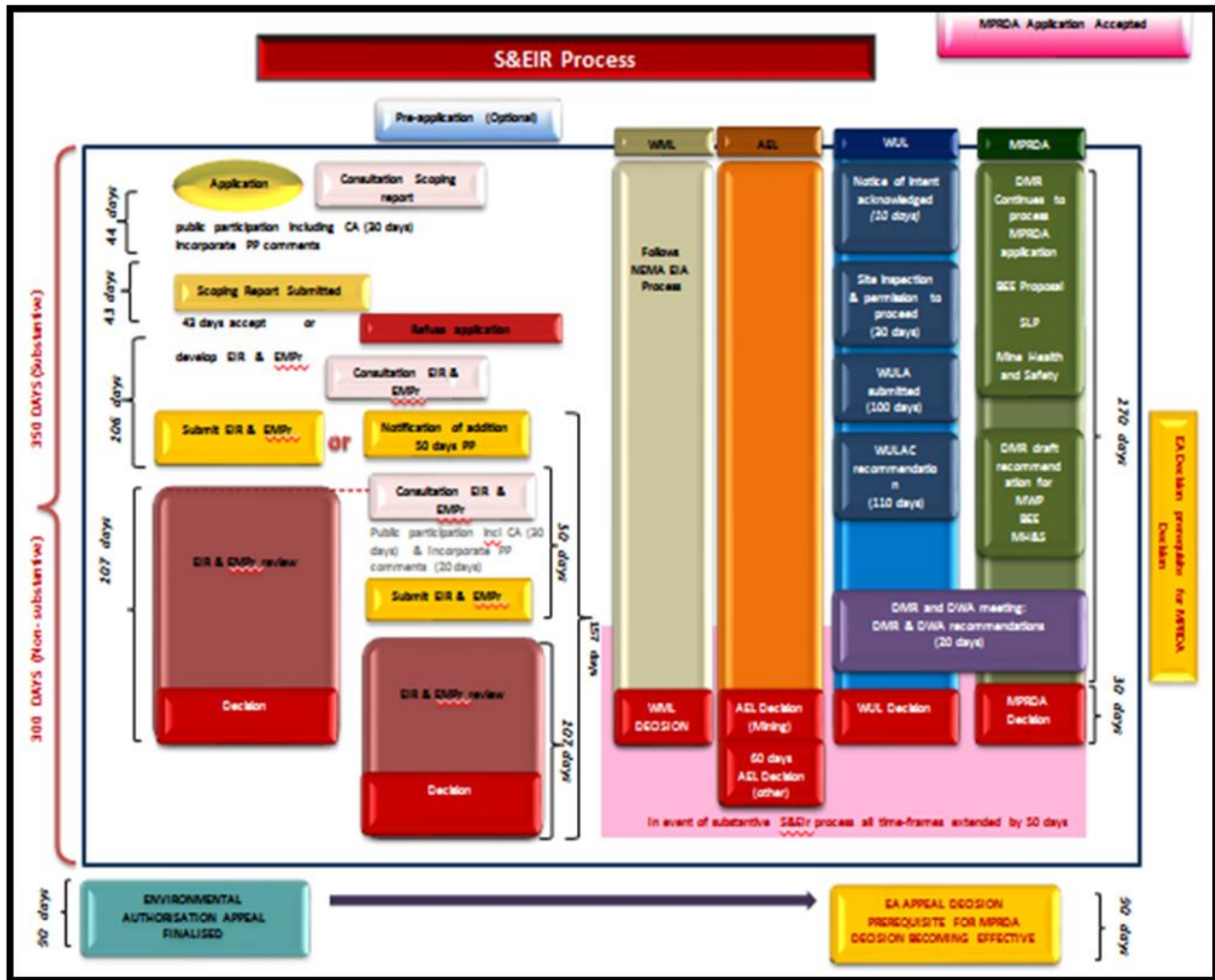


Figure 1: Scoping and EIA Process

## 5. PUBLIC PARTICIPATION

The extensive database of stakeholders developed during the scoping process will be used as a basis to ensure that those stakeholders involved in the Scoping Phase also participate in the EIA phase. The database will also be expanded to include I&APs that wish to be involved in the process. Registered I&APs will be informed of the availability of the Draft EIA Report for review and will be given 30 days to provide their comment.

The comments received during the 30-day review period of the Draft EIA Report will be incorporated into an updated Comments & Response Report. Further public consultation will take place in the form of Public meetings and focus group meetings as appropriate. The outcome of the proposed PPP will reveal whether or not further public meetings are required. The purpose of the Public Meetings would be to present the findings of the Draft EIA Report and to present the alternative sites to the relevant stakeholders, registered I&APs and the affected landowners. Nsovo will use this forum to provide more background information about the proposed development

including the specialist input, and also to provide the stakeholders with the opportunity to further comment on the proposed development.

In the event that the comments reveal information that changes or influences the impact evaluation provided in the Draft EIA, the necessary amendments will be made to the report. The Final EIA Report will be submitted to the relevant Authorities, subsequent to the second phase of public consultation and simultaneously made available for public review.

### **5.1 ADVERTISING**

In line with the EIA regulations, the commencement of the EIA process i.e. the Scoping Phase of the project was advertised in a local newspapers in English. The proposed project was announced publicly through the following forms of information sharing:

- Newspaper adverts providing a description of the proposed development and location, as well as contact details for where more information can be acquired;
- Notices (with descriptions as above) were placed in and around the vicinity of the proposed development;
- A5 notices were distributed in the immediate vicinity of the development;
- Letters were submitted to key stakeholders; and
- Public Meeting.

Advertisements during the detailed assessment phase will follow the same process; however, effort will be made to advertise in other local languages as well. Further advertising will occur during the EIA phase and will relate to the availability of the reports for public review and announcement of public meetings that will be held at strategically located sites, which will allow for maximum attendance.

### **5.2 INTERACTION WITH DEA AND PROVINCIAL ENVIRONMENTAL DEPARTMENTS**

Interaction with DEA and the other Provincial environmental Authorities was undertaken during the Scoping Phase and will continue into the EIA Phase of the project. Further interaction will occur in the following manner:

- Submission of the FSR;
- A consultation meeting with various stakeholders as appropriate, to discuss the findings of the FSR and the issues identified for consideration in the EIA;
- Attendance at meetings; and
- Submission of the Final EIA report, following a public review period.

### **5.3 DEVELOPING A STRATEGY AND RESOLVING KEY ISSUES**

A strategy for addressing and resolving key issues is to be developed and will include:

- Details on all assessments and investigations carried out;
- Use of the Public Participation Meetings to present the findings of the reports and test the acceptability of priority issues and mitigations;
- Openly and honestly relating both positive and negative impacts of the proposed development during the Public Meetings; and
- Allowing the public to understand the consequences of the proposed development on the area.

## **6. SPECIALIST STUDIES**

The specialists will outline their proposed methodology and assumptions and sources of information will also be clearly identified. The knowledge of local people should be incorporated in the study. The description of the study approach shall include a short discussion of the appropriateness of the methods used in the specialist study in terms of local and international trends with respect to the specific practice. The following key components outlined below will form part of the each specialist report.

### **6.1 DESCRIPTION OF THE AFFECTED ENVIRONMENT**

A description of the affected environment will be provided. The focus of this description must be relevant to the specialist's field of expertise. The specialist must provide an indication of the sensitivity of the affected environment. Sensitivity, in this context, refers to the "ability" of an affected environment to tolerate disturbance, for example, if disturbance of the natural habitat results in the permanent loss of its biodiversity. The affected environment could be categorised as having a "low tolerance" to disturbance and is, therefore, termed a highly sensitive habitat. If a habitat is able to withstand significant disturbance without a marked impact on its biodiversity, the affected environment could be categorised as having a high tolerance to disturbance (i.e. "low sensitivity" habitat).

### **6.2 IMPACT IDENTIFICATION AND ASSESSMENT**

The specialist must make a clear statement, identifying the environmental impacts of the construction, operation and management of the proposed development. As far as possible, the specialist must classify the potential environmental impacts identified in the study and assess the significance of the impacts according to the criteria set out in below. Each impact will be assessed and rated as per the methodology described. The impact assessment will provide an evaluation of the significance of each of the three phases of the project (i.e. design, construction and operational and decommissioning and closure phases). The assessment of the data must, where possible be based on accepted scientific techniques, failing which the specialist must make informed judgements based on his/her professional expertise and experience.



### 6.3 MITIGATION AND PREVENTION MEASURES

Feasible, practical mitigation, impact prevention and project optimisation measures should be recommended in order to minimise negative impacts and to enhance the benefits of positive impacts. The mitigation measures should further address the following:

- Mitigation objectives- Level of mitigation being targeted

For each identified impact, the specialists must provide mitigation objectives, which would result in a measurable reduction of the impact. Where limited knowledge or expertise exists on such mitigation, the specialists must consult with other specialists on the team failing which the specialists must make a judgement call based on his/her professional experience.

- Recommended mitigation measures

For each impact the specialist must recommend practicable mitigation actions that can measurably affect the significance rating. The specialist must also identify management actions, which could enhance the condition of the environment. Where no mitigation is considered feasible, this must be stated and reasons provided.

- Effectiveness of mitigation measures

The specialist must provide quantifiable standards (performance criteria) for reviewing or tracking the effectiveness of the proposed mitigation actions, where possible, as this will be utilised when drafting the monitoring component of the EMP.

- Recommended monitoring and evaluation programme

The specialist is required to recommend an appropriate monitoring and auditing programme, which would be able to track the efficacy of the mitigation objectives. Each environmental impact will be assessed before and after mitigation measures are implemented in order to show how effective or ineffective will be. The management objectives, design standards etc., which, if achieved, can eliminate, minimise or enhance potential impacts or benefits must, wherever possible, be expressed as measurable targets. National standards or criteria are examples, which can be stated as mitigation objectives.

Once the above objectives are stated, feasible management actions, which can be applied as mitigation, must be provided. A duplicate column in the impact assessment tables should indicate how the application of the proposed mitigation or management actions has reduced the impact. If the proposed mitigation is of any consequence, it should result in a measurable reduction in impacts (or, where relevant, a measurable benefit).

Preliminary specialist studies have been conducted, however, detailed specialist investigations and quantification of impacts identifies are yet to be conducted. The findings of each field of study will be presented to stakeholders as well as Interested and Affected Parties. Further studies and assessments in the following areas of specialisation will be conducted (in addition to any studies required by the authorities):

- Heritage Assessment study;
- Flora & Fauna study;
- Avifauna study; and
- Agricultural Potential study

## 7. METHODS OF IDENTIFYING ALTERNATIVES

The identification of alternatives is an important component of the EIA process. The various alternatives have been identified and will be assessed in terms of both environmental acceptability as well as economic feasibility during the EIA phase of the project. The preferred option will be highlighted and presented to the authorities.

As with the majority of developments, finding alternative sites and design methods is a requirement. It is important to note that identification of alternatives during the Scoping have taken the following forms:

- Site alternative;
- Design alternative;
- Planning alternative; and
- No-go alternative.

Site and design alternatives have been identified and will be further assessed against the *No Go Alternative* in the EIA phase. In addition, the potential environmental impacts associated with the proposed Vryheid Network Strengthening will be investigated and evaluated in further detail within the EIA phase of the study.

## 8. IMPACT ASSESSMENT METHODOLOGY

The assessment of impacts will largely be based on the Department of Environmental Affairs and Tourism's (1998) Guideline Document: Environmental Impact Assessment Regulations. The assessment will consider impacts arising from the proposed activities of the project both before and after the implementation of appropriate mitigation measures.

The impacts will be assessed according to the criteria outlined in this section. Each issue is ranked according to extent, duration, magnitude (intensity) and probability. From these criteria, a significance rating is obtained, the method and formula is described below. Where possible, mitigation recommendations have been made and are presented in tabular form.

The criteria given in the tables below will be used to conduct the evaluation. The nature of each impact is to be assessed and described in relation to the extent, duration, intensity, significance and probability of occurrence attached to it.

**Table 1: Methodology Used in determining the significance of potential environmental impacts**

<p>Status of Impact</p> <p>The impacts are assessed as either having a: negative effect (i.e. at a `cost' to the environment), positive effect (i.e. a `benefit' to the environment), or Neutral effect on the environment.</p> <p>Extent of the Impact</p> <p>(1) Site (site only), (2) Local (site boundary and immediate surrounds ), (3) Regional (within the City of Johannesburg), (4) National, or (5) International.</p> <p>Duration of the Impact</p> <p>The length that the impact will last for is described as either:</p> <p>(1) immediate (&lt;1 year) (2) short term (1-5 years), (3) medium term (5-15 years), (4) long term (ceases after the operational life span of the project), (5) Permanent.</p> <p>Magnitude of the Impact</p> <p>The intensity or severity of the impacts is indicated as either:</p> <p>(0) none, (2) Minor, (4) Low, (6) Moderate (environmental functions altered but continue), (8) High (environmental functions temporarily cease), or (10) Very high / Unsure (environmental functions permanently cease).</p> <p>Probability of Occurrence</p> <p>The likelihood of the impact actually occurring is indicated as either:</p>
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- (0) None (the impact will not occur),
- (1) improbable (probability very low due to design or experience)
- (2) low probability (unlikely to occur),
- (3) medium probability (distinct probability that the impact will occur),
- (4) high probability (most likely to occur), or
- (5) Definite.

#### Significance of the Impact

Based on the information contained in the points above, the potential impacts are assigned a significance rating (**S**). This rating is formulated by adding the sum of the numbers assigned to extent (**E**), duration (**D**) and magnitude (**M**) and multiplying this sum by the probability (**P**) of the impact.

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

The significance ratings are given below

- (<30) low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- (30-60) medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- (>60) high (i.e. where the impact must have an influence on the decision process to develop in the area).

## 9. COLLATING AVAILABLE INFORMATION AND IDENTIFYING KNOWLEDGE GAPS

Site specific data will be gathered through detailed site investigations. Information on any previous studies in the area will be collated and all available information evaluated to determine gaps in the data.

The following methodology will be used to acquire completed specialists reports (previous studies) and site-specific information to assist in the compilation of the Environmental Impact Report.

- Identifying sensitive areas, which may require in-depth studies /assistance from relevant specialists.
- Collecting data such as published literature and maps from government departments, the Geological Survey, general literature searches, Institutions and websites.
- Carrying out a literature review to source information relevant to the project.
- Scheduling work sessions to fully integrate and pull the knowledge and relevant expertise for the project.

The available data will then be reviewed and assessed to determine where additional information is required for the study. The end product of this task is a summary and draft EIR. The draft EIR will be placed on public review before a final report is prepared for submission to the relevant authorities.

## 9.1 PUBLIC INPUT

Comments and concerns from all stakeholders, interested and affected parties will be gathered, assessed and incorporated into the EIR. Public meetings and information sessions are to be organised where all concerns will be discussed and sound conclusions reached. Upon completion of the draft EIR, the document is to be put out for public review for a period of 40 days. Further comments received will be addressed and incorporated into the final EIR that will be submitted to the authorities for decision making.

## 9.2 ENVIRONMENTAL IMPACT REPORT & ENVIRONMENTAL MANAGEMENT PROGRAMME

The final Environmental Impact Report will be submitted in hard copy and electronic version (CD) and will include the following:

- A brief description of the project;
- A brief description of the possible environmental (including socio-economic) impacts identified;
- An assessment in terms of the significance, probability, extent, duration and intensity of each impact identified;
- A description of alternatives identified;
- A description of the public participation process undertaken;
- Conclusions and recommendations;
- Appendices i.e. all the supporting documents; and
- An Environmental Management Programme.

The EIR will be reviewed by the I&AP's, authorities and key stakeholders. The Report is to be submitted to:

- Department of Environmental Affairs,
- Western Cape Department of Environment & Development Planning
- Western Cape Department of Transport and Public Works
- Cape Nature
- Swellendam Local Municipality;
- Public Library;
- South African Heritage Resources Agency;
- Registered Interested & Affected Parties
- Department of Water and Sanitation; and
- Nsovo website.

## **10. CONCLUSION**

Nsovo recommends that the proposed project proceeds to the EIA phase. Nsovo will ensure that the EIA phase of the project is compliant to the Regulation and is as comprehensive as possible. Furthermore, Nsovo will ensure their independence throughout the project.