PROPOSED PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT
MAKANA MUNICIPALITY
EASTERN CAPE PROVINCE OF SOUTH AFRICA

DEA Reference Number: 12/12/20/2523

FINAL ENVIRONMENTAL SCOPING REPORT

Prepared for:

PLAN8 INFINITE ENERGY

Mr ZubenJessa
Engineering Manager
Plan8 (Pty) Ltd Infinite Energy

Prepared by:

Coastal & Environmental Services

GRAHAMSTOWN
046 622 2364
P.O. Box 934
Grahamstown, 6140

EAST LONDON
043 742 3302
2 Marine Terrace, Hampton Court
East London, 5201

www.cesnet.co.za

January 2012

This report should be cited as follows: Coastal & Environmental Services, January 2012: *Final Environmental Scoping Report: Proposed Plan8 Grahamstown Wind Energy Project*. CES, Grahamstown.

EXECUTIVE SUMMARY

Background

Plan8 (Pty) Ltd, a renewable energy company, plans to develop a wind powered electricity generation facility (known as a 'wind farm') approximately 30km outside of Grahamstown along the N2 in an easterly direction towards East London, in the Eastern Cape Province of South Africa. The proposed site is on the farms Gilead, Tower Hill and Peynes Kraal, situated approximately 30km east of Grahamstown. The proposed wind farm is planned to comprise up to a maximum of 27 turbines, each with a nominal power output ranging between 2 and 3 MW (megawatts). The total potential generating capacity of the wind farm will be approximately 67.5 MW, and will feed power into the national electricity grid.

According to Plan8 (Pty) Ltd, the motivation for the proposed project arose from the following potential benefits:

- *Climate change:* Because of concerns about the effects of climate change and the ongoing exploitation of non-renewable resources there is increasing international pressure on countries to increase their share of renewable energy generation. The South African Government has recognised the country's high level of untapped renewable energy potential and the equally high level of current fossil-fired power generation, and has placed targets of 10 000 GWh from renewable energy sources by 2013 in order to begin to redress the balance. In order to kick start the renewable energy sector in South Africa, a Feed-in Tariff for various renewable energy technologies has been established. This Feed-in Tariff guarantees the price of electricity supply from the renewable energy installation. The resources on this planet are finite and will become more expensive as they are consumed. Coal is required for many derivative products in our society. As a responsible nation we need to develop technologies that can replace the existing technologies which use the finite fossil fuel resource.

- *Social upliftment:* The landowners approached by the Applicant to be part of this wind energy project expressed their commitment to the project in the hope that utilisation of portions of their land for wind turbines will be a source of additional income to supplement their farming income. Plan8 (Pty) Ltd also intends to identify community development projects, in conjunction with local government, local community organisations and stakeholders, which will be implemented with the aim of improving the socio-economic environment in Makana Local Municipality and the surrounding areas.

- *Electricity supply:*The establishment of the proposed Plan8 Grahamstown wind energy installation will contribute to strengthening the existing electricity grid for the area and will aid the government in achieving its goal of a 30% share of all new power generation being derived from Independent Power Producers (IPP).

In addition to the above-mentioned benefits, the proposed project site was selected due to:

- Good wind resources suitable for the installation of a large wind energy facility.
- Proximity to connectivity opportunities such as substations or high voltage (HV) overhead lines traversing the proposed development site. The specific substation into which the electrical cables will be connected to will be confirmed at a later stage.
- The surrounding area is not densely populated.
- There is potential and appetite within the Makana Local Municipality to engage with new technologies and industries.

The proposed Grahamstown Wind Energy project study area is depicted in Figures 1 and 2 below.

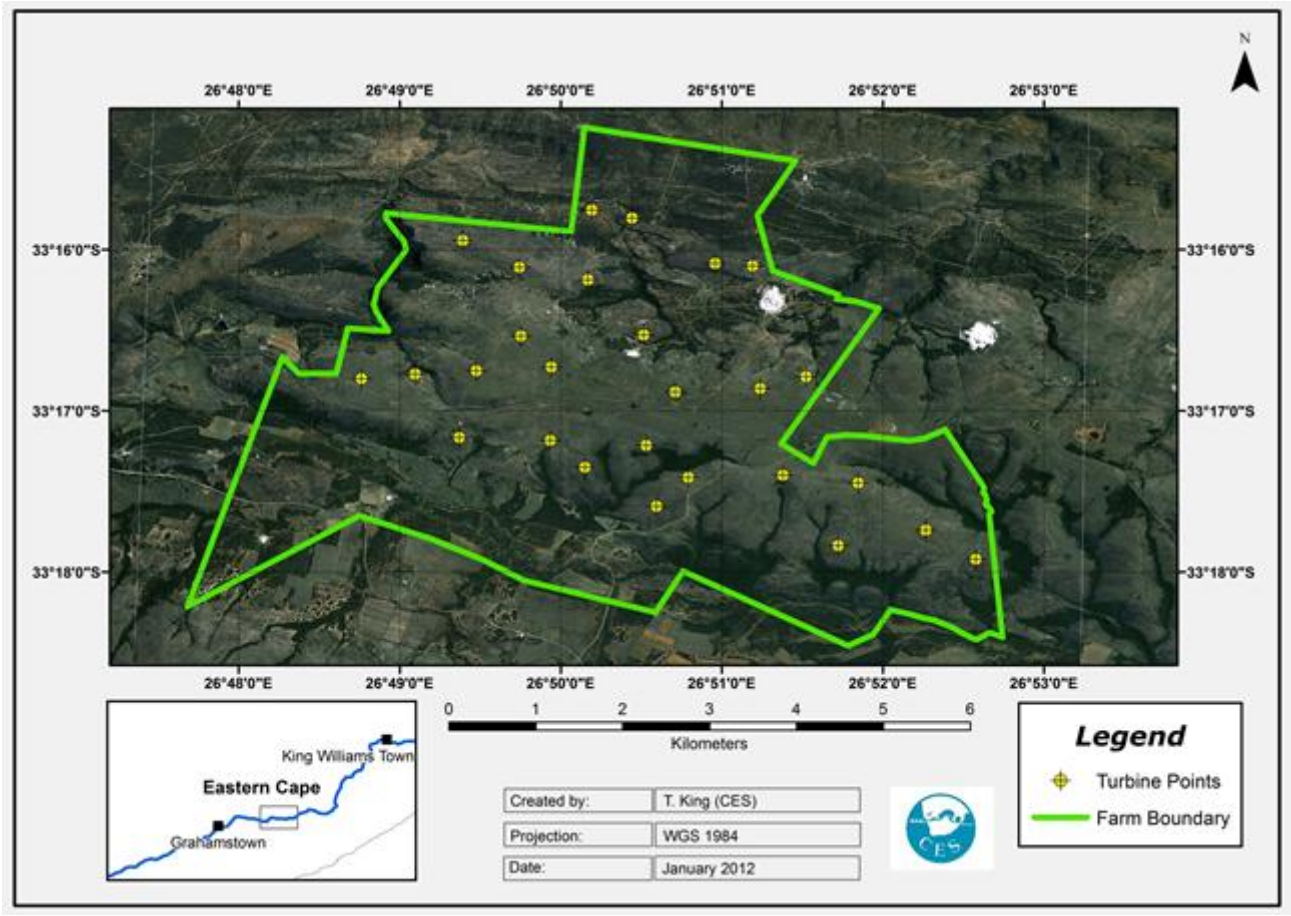


Figure 1: Locality map of the proposed Plan8Grahamstown wind energy project

Legal Requirements

The EIA process is guided by regulations made in terms of Chapter 5 of the National Environmental Management Act No. 107 of 1998 (NEMA) as amended. The Environmental Impact assessment Regulations (GN R.543) set out the procedures and criteria for the submission, processing and consideration of and decisions on applications for the environmental authorisation of activities. Two lists of activities, published on 2nd August 2010, as Government Notice Numbers R.544 and R.545, define the activities that require, respectively, a Basic Assessment (applies to activities with limited environmental impacts or within a prescribed geographical area - province), or a Scoping and Environmental Impact Assessment (applies to activities that are significant in extent and duration). The activities triggered by the proposed are listed in Table 1 below. A third Government Notice, Number R.546, is province specific, and lists activities for which environmental authorisation is required if the activities take place in or in the vicinity of certain specified areas, including estuaries, protected or sensitive areas, and areas listed in international conventions such as the Ramsar Convention on Wetlands.

Because the proposed development triggers listed activities from GN R.545 it will require a full Scoping and EIA. It is important to note that, in addition to the requirements for an authorisation in terms of the NEMA, there may be additional legislative requirements that need to be considered prior to commencing with the activity, for example: the National Heritage Resources Act (Act No 25 of 1999), Aviation Act (Act No 74 of 1962) as amended, White Paper on Energy Policy for South Africa (Energy White Paper), White Paper on Renewable Energy Policy (Renewable Energy White Paper), the Integrated Energy Plan for the Republic of South Africa (March, 2003) etc.

The Environmental Impact Assessment

Coastal & Environmental Services (CES), a well-established specialist environmental consulting firm with offices in Grahamstown and East London, have been appointed by Plan8(Pty) Ltd as

Environmental Assessment Practitioner (EAP) to conduct the Environmental Impact Assessment (EIA).

The competent authority that must consider and decide on the application for authorisation in respect of the activities listed in Table 1 is the Department of Environmental Affairs (DEA), formerly the Department of Environmental Affairs and Tourism (DEAT), as the Department has recently reached agreement with all Provinces that all electricity-related projects, including generation, transmission and distribution, are to be submitted to DEA, irrespective of the nature of the applicant. This decision has been made in terms of Section 24(C)(3) of the NEMA (Act No 107 of 1998) as amended. The decision is effective for all projects initiated before, and up until, approximately 2015.

The EIA process is divided into two key phases - Scoping and Environmental Impact Assessment. This Final Scoping Report (FSR) presents the outcomes of the first phase of the environmental impact assessment process. The Scoping process has been undertaken to identify and describe:

- • The nature of the proposed project;
- • The legal, policy and planning context for the proposed project;
- • Important biophysical and socio-economic characteristics of the affected environment;
- • Potential environmental issues or impacts, so they may be addressed in the EIA phase;
- • Feasible alternatives that must be assessed in the EIA phase;
- • The Plan of Study (POS) for the EIA phase.

Provision was made in the Scoping Phase for the involvement of Interested and Affected Parties (I&APs) in the forthcoming EIA process.

Please note that the DRAFT Scoping Report released for public comment in November – December 2011 did not include activities 11, 13, 18, 38, 40 and 47 of GNR 544 and activities 12, 13, 14, 16 and 24 of GNR 546. This has been included in the FINAL Scoping Report for submission to DEA.

Listed activities potentially triggered by the proposed Plan8 Grahamstown Wind Energy Project

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	10	The construction of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	11	The construction of: (i) canals; (ii) channels; (iii) bridges; (iv) dams; (v) weirs; (vi) bulk storm water outlet structures; (vii) marinas; (viii) jetties exceeding 50 square metres in size; (ix) slipways exceeding 50 square metres in size; (x) buildings exceeding 50 square metres in size; or (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.
Listing Notice 1: R.544	13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;
Listing Notice 1: R.544	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from: (i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater- but excluding where such infilling, depositing , dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.
Listing Notice 1: R.544	38	The expansion of facilities for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase.
Listing Notice 1: R.544	40	The expansion of (i) jetties by more than 50 square metres; (ii) slipways by more than 50 square metres; or (iii) buildings by more than 50 square metres (iv) infrastructure by more than 50 square metres within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, but excluding where such expansion will occur behind the development setback line.

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	47	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres – excluding widening or lengthening occurring inside urban areas.
Listing Notice 2: R.545	1	The construction of facilities or infrastructure for the generation of electricity where the electricity is 20 megawatts or more.
Listing Notice 2: R.545	8	The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.
Listing Notice 2: R.545	15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; Except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.
Listing Notice 3: R.546	4	The construction of road wider than 4 metres with a reserve less than 13,5metres.
Listing Notice 3: R.546	10	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.
Listing Notice 3: R.546	12	The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation
Listing Notice 3: R.546	13	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation:
Listing Notice 3: R.546	14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation
Listing Notice 3: R.546	16	The construction of (iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line
Listing Notice 3: R.546	19	(19) The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.
Listing Notice 3: R.546	24	The expansion of (d) infrastructure where the infrastructure will be expanded by 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

Note: Activity-specific thresholds and criteria of applicability for all GN R.546 Activities are described in detail in the Government Notice

Project Description

The term wind energy describes the process by which wind turbines convert the kinetic energy in the wind into mechanical power and a generator can then be used to convert this mechanical power into electricity. Typical turbine subsystems include:

- A rotor or blades – the portion of the wind turbine that collects energy from the wind and converts this wind energy into rotational shaft energy to turn the generator.
- A nacelle (enclosure) containing a drive train, usually including a gearbox (some turbines do not require a gearbox) and a generator which converts the turning motion of a wind turbine's blades (mechanical energy) into electricity.
- A tower, to support the rotor and drive train - the tower on which a wind turbine is mounted is not only a support structure, but it also raises the wind turbine so that its blades safely clear the ground and so can reach the stronger winds at higher elevations.
- Electronic equipment such as controls, electrical cables, ground support equipment, and interconnection equipment.

The Plan8 Grahamstown Wind Energy Project will be spread over three property parcels in the MakanaLocal Municipality area, as follows:

1. Gilead farm
   - Gilead farm No361
2. Tower Hill
   - Coombs Vale farm No 3
3. Peynes Kraal
   - Peynes Kraal farm No 362

The three land portions are planned to host a total of up to 27 turbines, each with a nominal power output ranging between 2 and 3 megawatts (MW). The total potential generating capacity of the wind farm will therefore be approximately 67.5MW as per the farm numbers below:

The ultimate size of the wind turbines will depend on further technical assessments but will typically consist of rotor turbines (3 x50m blades) with rotor diameters of around 100 metres mounted atop an 80 - 100 metre-high steel or hybrid steel/concrete tower. As with all projects of this nature being developed by Independent Power Producers (IPP's) the electricity will be fed into the national ESKOM grid.

Typically, the development of the wind farm is divided into various phases:-

- *Pre-feasibility*: Plan8 (Pty) Ltd conduct surveys to ensure that obvious issues surrounding the project should not impact on the progress and the final acceptance of the project. This includes visits to local authorities, civil aviation authorities, identifying local communities, wind resource evaluation from existing data, grid connectivity, environmental impact assessment, logistical and project phasing requirements.
- *Feasibility*: Plan8 (Pty) Ltd will firm up and carry out thorough investigations to establish the actual costs and economic viability of the project by designing the financial model with financial institutions, verifying wind resources by onsite measurement, ensuring grid connection is economical and feasible in the timeframes of the project, identifying possible off-takers for the electricity. Once the feasibility studies are complete Plan 8 will identify which parts of the project will be constructed first. Then, in an organised fashion the project will be expanded according to the availability of grid capacity and turbines. There are five construction phases envisaged which will allow for economical implementation of the project.
- *Wind Measurement*: Prior to the establishment of the full facility, it will be necessary to erect a number of wind measurement masts to gather wind speed data and correlate these measurements with other meteorological data in order to produce a final wind model of the proposed project site. A measurement campaign of at least 12 months in duration is necessary to ensure verifiable data is used of the economics of the project and to finalise the positions of the wind turbines.

- *Implementation:* Building a wind farm is divided into three phases namely:
  - Civil works: A temporary area of 35mX25m needs to be established during the preliminary phase of the wind farm for access to the site during the construction phase by machines (bulldozers, trucks, cranes etc).
  - Construction: This involves the laying of foundations and electrical connections.
  - Operational: During the period when the turbines are operational, there are only a few crews who carry out routine maintenance requiring only light vehicles to access the site. Only major breakdowns would necessitate the use of cranes and trucks.

- *Timing Estimation:*
  - Preliminary phase = 13 weeks (including 8 weeks to let the foundation concrete achieve its final design strength)
  - Wind turbines erection = 8 weeks (in good low wind weather conditions)
  - Commissioning and electrical connection = 8 weeks

- *Refurbishment and rehabilitation of the site after operation*
  - Current wind turbines have a design life of around 25 years and this is the figure that has been used to plan the life span of a modern wind farm. If refurbishment is economical, the facility life span could be expanded by another 25 years. Decommissioning of the wind energy facility at the end of its useful life will be undertaken in agreement with the landowners and according to the land use agreement.

The Affected Environment

Climate

The study site in the Makana region falls in the heart of three major transitional climatic regions. Due to the location of the study area at the confluence of several climatic regimes, namely temperate and subtropical, the Eastern Cape Province oı South Africa has a complex climate. There are wide variations in temperature, rainfall and wind patterns, mainly as a result of movements of air masses, altitude, mountain orientation and the proximity of the Indian Ocean. Winds and alternating cold and warm fronts thus make for a very variable climate throughout the region. Grahamstown normally receives about 470mm of rainfall per year and because it receives most of its rainfall during winter it has a Mediterranean climate.

Topography

The Eastern Cape Province contains a wide variety of landscapes, from the stark Karoo (the semi-desert region of the central interior) to mountain ranges and gentle hills rolling down to the sea. The topography gives rise to the great diversity of vegetation types and habitats found in the region.

Geology and Soils

Grahamstown is situated in the eastern part of the Cape Fold Belt and is underlain mainly by rocks of the Witteberg Group of the Cape Supergroup, and the DwykaandEcca groups of the Karoo Supergroup. In the general area, the oldest rocks of the Cape Supergroup are the shales and sandstones of the Weltevrede Formation, overlain by resistant quartz arenites of the Witpoort Formation. These quartzites are overlain by fine-grained shales and thin sandstones of the Lake Mentz and Kommadagga subgroups

Vegetation and floristic

The vegetation of the Eastern Cape is complex and is transitional between the Cape and subtropical floras, and many taxa of diverse phyto-geographical affinities reach the limits of their distribution in this region. The region is best described as a tension zone where four major biomes converge and overlap.

Fauna

Lack of pristine terrestrial habitat in the Grahamstown area, particularly due to loss of natural vegetation caused by infestation by alien invasive species as well as urban development, has impacted on terrestrial fauna. Despite this, a few large mammals occur in the region, along with small and medium sized animals. Reptiles and amphibians occurring in the area include many species of frogs, tortoises and terrapins, lizards and snakes. Important mammals occurring in the study area include 5 IUCN Red Data listed species

The Public Participation Process

During the Scoping Phase a public participation process (PPP) was undertaken to allow Interested and Affected Parties (I&APs) to voice their concerns and raise issues regarding the proposed project.

The key elements of the process included:

- Development and distribution of a Background Information Document (BID);
- Informing I&APs of the proposed development through newspaper advertisements, site notice boards and notification letters,
- A public meeting was held during public review of the DSR. All I&APs were notified of the date, time and venue of the public meeting;

Throughout this process, a register of I&APs has been compiled and maintained, together with a record of their comments and responses from the project proponent and the Environmental Assessment Practitioner.

This Final ESR is now be submitted to DEA, and all I&APs will be notified of the submission.

Issues and Concerns

The main issues and concerns raised to date included but are not limited to the following:-

Issue	Question/statement
Telecommunication Interference: Vodacom Mast	The proposed development takes place and surrounds a Vodacom Telecommunication mast. Will the turbines have any implications and interference on the electronic broadcasting from this mast?
Socio-economic: Ecotourism	The construction of a substantial Windfarm on the high lying ridge above Coombes Valley will impact negatively on all ecotourism and hunting concerns in the vicinity. There are potential negative impacts on surrounding game reserves that rely on a pristine environment for a satisfactory experience for their clients.
Visual Intrusion	A development of a Windfarm on this particular site, no matter how attractive it may be to the Developer and the Landowners will adversely impact upon other legitimate land-users and in particular Amaraka Investments No. 6 (Pty) Limited in that the visual pollution will be considerable and will in all probability make it more difficult if not impossible to sell ecotourism and safari operations on its property, and will most certainly reduce the value of its considerable investment in land.
Avifauna and bats	There are potential negative impacts on large bird populations via loss of useable habitat.

Mr Murray Crous, owner of Settlers Safaris hunting outfit and Bushmans Gorge Lodge situated on Honeykop Farm, a neighbouring farm to the proposed Plan 8 Windfarm; and Mr Dave De La Harpe, Director of Amaraka Investments No. 6 (Pty) Limited, raised many concerns, including but not limited to the following: project description, motivation, benefits, public participation process, ecological functioning of the area, socio-economic benefits. Please refer to Appendices B-8 and 9 for a full record of all issues and concerns, and responses to them. Included in this appendix are the copies of the correspondence received from I&APs who raised concerns.

In addition, issues raised during the public meeting are provided in Appendix B-7 as meeting minutes.

Identification of Alternatives

Since the core business of the project proponent, Plan8 (Pty) Ltd, is wind farm development for the generation of electricity, the fundamental alternative of a development other than to construct and operate a wind farm is therefore not viable in this case, and will not be considered further in the EIA.

Modifications or variations to the design of the wind farm that will facilitate the reduction or minimisation of environmental impacts i.e. incremental alternatives will be investigated, including modifications to the design or layout, technology and operational aspects of the proposed project.

The EIA Phase will also examine the impact of doing nothing (i.e. the “No Go” option).

The Way Forward – EIA Phase

This Final ESR includes the outline of a Plan of Study (PoS) for the EIA phase, which includes Terms of Reference (ToR) for specialist studies as they are currently envisaged and the methodology that will be used to assess impacts and rate their significance. Consultation with DEA will be ongoing throughout this EIA. However, it is anticipated that DEA will provide relevant comment with respect to the adequacy of this Plan of Study for the EIA, as it informs the content of the Environmental Impact Report (EIR) and sufficiency thereof.

The following specialist studies are proposed for the EIA Phase of the assessment:-

- Visual Impact Assessment
- Noise Impact Assessment
- Ecological Impact Assessment (incorporating flora and fauna)
- Avifauna Impact Assessment (including bats)
- Archaeological and Palaeontological Impact Assessment
- Bat (*Chiroptera*) Impact Assessment
- Agricultural Impact Assessment

The significance of impacts will be assessed based on specialist input using a standardised rating methodology. “Significance” includes the spatial and temporal scales of impacts, the likelihood of impacts occurring, and the severity of impacts or potential benefits.

An EIR will be prepared that will describe the nature of the proposed project and its environmental setting, summarise the results of the specialist studies, and recommend practical and reasonable mitigation measures to avoid, minimise or offset any negative impacts from the development. In this regard the EIA Phase will actively engage and contribute to the planning process so as to mitigate environmental impacts through improved design and layout. The overall objective of the EIR is to provide DEA with sufficient information about the proposed project and its associated environmental and social impacts on which to make an informed decision.

Draft Environmental Management Programmes (EMPrs) will be prepared that provide practical and actionable management, monitoring and institutional measures to be undertaken during the construction, operation and decommissioning phases of the proposed wind energy facility’s life. Such measures are designed to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The public participation process initiated in the Scoping Phase will continue throughout the EIA Phase.

In this regard a critical outcome of the EIA phase will be the Draft EIR and Draft EMPrs. These reports will be released for public review and comment, and will also be presented to I&APs during public meetings, before they are finalised and presented to DEA. An environmental authorisation may be granted or rejected by the authority based on the review of these reports. The decision will be advertised, and registered I&APs will also be informed in writing and given the opportunity to appeal the decision.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

LIST OF ABBREVIATIONS

BBBEE:	Broad Based Black Economic Empowerment
BID:	Background Information Document
CES:	Coastal and Environmental Services
DEA:	Department of Environmental Affairs
DSR:	Draft Scoping Report
DWA	Department of Water Affairs
EAP:	Environmental Assessment Practitioner
EIA:	Environmental Impact Assessment
EIR:	Environmental Impact Report
EMPr:	Environmental Management Programme
FSR:	Final Scoping Report
GN R:	Government Notice Regulation
ha:	Hectare
I&APs:	Interested and Affected Parties
IPP:	Independent Power Producer
Kv:	Kilovolt
Ltd:	Limited
MW:	Megawatt
NEMA:	National Environmental Management Act 107 of 1998 as amended
NERSA:	National Energy Regulator of South Africa
PNCO:	Provincial Nature Conservation Ordinance
PoS:	Plan of Study
PPA:	Power Purchase Agreement
PPP:	Public Participation Process
RDB:	Red Data Book
REFIT:	Renewable Feed In Tariff
REPA:	Renewable Energy Purchasing Agency
SSC:	Species of Special Concern
ToR:	Terms of Reference

1. INTRODUCTION

1.1. BACKGROUND TO THE STUDY

Plan8(Pty) Ltd, a renewable energy company, plans to develop a wind powered electricity generation facility (known as a 'wind farm') 30km outside of Grahamstown along the N2 in an easterly direction toward East London, in the Eastern Cape Province of South Africa. The proposed site is on the farms Gilead, Tower Hill and Peynes Kraal situated approximately 30km east of Grahamstown. As per the Background Information Document (BID) and Newspaper Adverts, the proposed wind farm is planned to host up to a maximum of 27 turbines, each with a nominal power output ranging between 2-3MW (Mega Watts). The total potential output of the wind farm would be 67.5MW, and will feed into the national grid.

In accordance with the requirements of the National Environmental Management Act No. 107 of 1998, and relevant Environmental Impact Assessment (EIA) regulations made in terms of this Act (Government Notice No R.543) promulgated in 2010, the proposed project requires a full Scoping and EIA process to be conducted. Coastal & Environmental Services (CES) have been appointed by Plan8(Pty) Ltd as Environmental Assessment Practitioner (EAP) to conduct the EIA process.

1.2. THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The EIA process is guided by regulations made in terms of Chapter 5 of the National Environmental Management Act No. 107 of 1998 (NEMA), published as Government Notice No R.543 in Government Gazette No 33306 of 2 August 2010.

The regulations set out the procedures and criteria for the submission, processing and consideration of and decisions on applications for the environmental authorisation of activities. Two lists of activities, published on 2nd August 2010, as Government Notice Numbers R.544 and R.545, define the activities that require, respectively, a Basic Assessment (applies to activities with limited environmental impacts or within a prescribed geographical area - province), or a Scoping and Environmental Impact Assessment (applies to activities that are significant in extent and duration). The activities triggered by the proposed are listed in Table 1 below. A third Government Notice, Number R.546, is province specific, and lists activities for which environmental authorisation is required if the activities take place in or in the vicinity of certain specified areas, including estuaries, protected or sensitive areas, and areas listed in international conventions such as the Ramsar Convention on Wetlands

The activities triggered by the proposed Plan8Grahamstown West wind energy project are listed in Table 1-1 below.

Please note that the DRAFT Scoping Report released for public comment in November – December 2011 did not include activities 11, 13, 18, 38, 40 and 47 of GNR 544 and activities 12, 13, 14, 16 and 24 of GNR 546. This has been included in the FINAL Scoping Report for submission to DEA.

Table 1-1: Listed activities potentially triggered by the proposed Plan8Grahamstown Wind Energy Project

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	10	The construction of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	11	The construction of: (xii) canals; (xiii) channels; (xiv) bridges; (xv) dams; (xvi) weirs; (xvii) bulk storm water outlet structures; (xviii) marinas; (xix) jetties exceeding 50 square metres in size; (xx) slipways exceeding 50 square metres in size; (xxi) buildings exceeding 50 square metres in size; or (xxii) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.
Listing Notice 1: R.544	13	The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;
Listing Notice 1: R.544	18	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from: (i) a watercourse; (ii) the sea; (iii) the seashore; (iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater- but excluding where such infilling, depositing , dredging, excavation, removal or moving; (c) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (d) occurs behind the development setback line.
Listing Notice 1: R.544	38	The expansion of facilities for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase.
Listing Notice 1: R.544	40	The expansion of (iv) jetties by more than 50 square metres; (v) slipways by more than 50 square metres; or (vi) buildings by more than 50 square metres (iv) infrastructure by more than 50 square metres within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, but excluding where such expansion will occur behind the development setback line.

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1: R.544	47	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (iii) where the existing reserve is wider than 13,5 meters; or (iv) where no reserve exists, where the existing road is wider than 8 metres – excluding widening or lengthening occurring inside urban areas.
Listing Notice 2: R.545	1	The construction of facilities or infrastructure for the generation of electricity where the electricity is 20 megawatts or more.
Listing Notice 2: R.545	8	The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.
Listing Notice 2: R.545	15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; Except where such physical alteration takes place for: (iii) linear development activities; or (iv) agriculture or afforestation where activity 16 in this Schedule will apply.
Listing Notice 3: R.546	4	The construction of road wider than 4 metres with a reserve less than 13,5metres.
Listing Notice 3: R.546	10	The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 but not exceeding 80 cubic metres.
Listing Notice 3: R.546	12	The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation
Listing Notice 3: R.546	13	The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation:
Listing Notice 3: R.546	14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation
Listing Notice 3: R.546	16	The construction of (iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line
Listing Notice 3: R.546	19	(19) The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.
Listing Notice 3: R.546	24	The expansion of (d) infrastructure where the infrastructure will be expanded by 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

Because the proposed development triggers a number of listed activities from GNR.545, it will

require a full Scoping and EIA. This process (Figure 1-1) is regulated by Chapter 3 of Part 3 of the EIA regulations and described in detail in Appendix A of this report.

The competent authority that must consider and decide on the application for authorisation in respect of the activities listed in Table 1-1 is the Department of Environmental Affairs (DEA), formerly the Department of Environmental Affairs and Tourism (DEAT), as the Department has recently reached agreement with all Provinces that all electricity-related projects, including generation, transmission and distribution, are to be submitted to DEA, irrespective of the nature of the applicant. This decision has been made in terms of Section 24(C)(3) of the National Environmental Management Act (Act No 107 of 1998) as amended. The decision is effective for all projects initiated before, and up until, approximately 2015.

It is important to note that in addition to the requirements for an authorisation in terms of the NEMA, there may be additional legislative requirements which need to be considered prior to commencing with the activity, for example: the National Heritage Resources Act (Act No 25 of 1999), Aviation Act (Act No 74 of 1962) as amended, White Paper on Energy Policy for South Africa (Energy White Paper), White Paper on Renewable Energy Policy (Renewable Energy White Paper), the Integrated Energy Plan for the Republic of South Africa (March, 2003) etc. These are discussed in detail in Chapter 3 of this report.

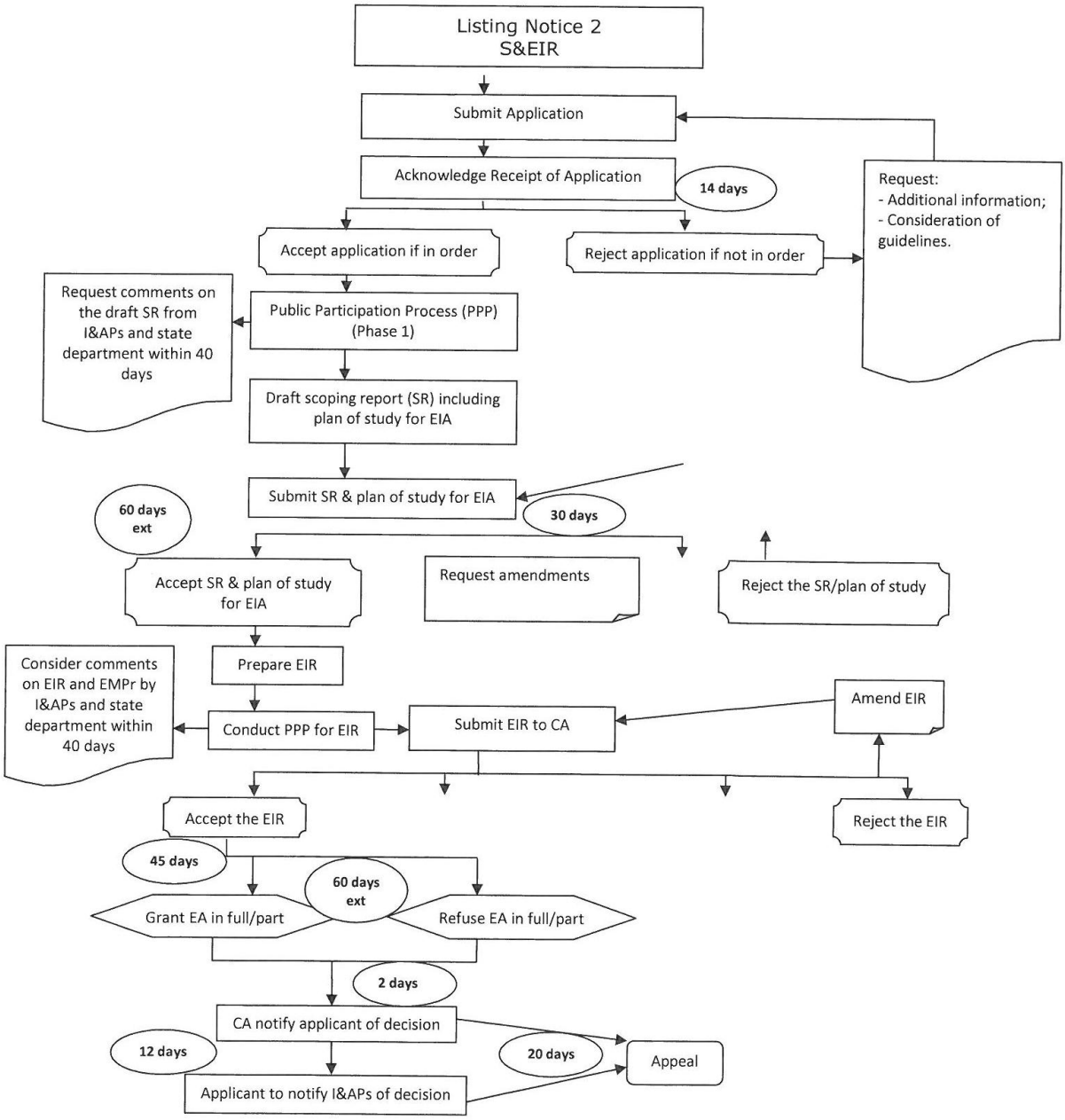


Figure 1-1: The EIA process under current legislation (NEMA 1998 as amended)

1.3. MOTIVATION FOR ACTIVITY

According to regulation 28 (1) of the EIA regulations (2010), *A scoping report must include –*
Ii) a description of the need and desirability of the proposed activity

According to Plan8 (Pty) Ltd, the proposed project will be beneficial for the following reasons:

Climate change

Due to concerns about the effects of climate change and the ongoing exploitation of non-renewable resources, there is increasing international pressure on countries to increase their share of renewable energy generation. The South African Government has recognised the country's high level of untapped renewable energy potential and the equally high level of current fossil-fired power generation, and has placed targets of 10 000 GWh of renewable energy by 2013 in order to begin to redress the balance. In order to kick start the renewable energy sector in South Africa, a Feed-in Tariff for various renewable energy technologies was established. This Feed-in tariff guarantees the price of electricity supply from the renewable energy installation.

In relation to the above, Plan8 (Pty) Ltd also highlighted the following:-

- For every 1 MWh of "green" electricity used instead of traditional coal powered stations, one can:-
    - Save 1 290 litres of water
    - Avoid 8.22 kg of Sulphur Dioxide (SO_2) emissions
    - Avoid 1 000 kg of Carbon Dioxide (CO_2) emissions including transmission losses, and;
    - Avoid 142 kg of ash production

Electricity supply

The establishment of the proposed Plan8Grahamstown Wind Energy Installation will contribute to strengthening the existing electricity grid for the area and will aid the government in achieving its goal of a 30% share of all new power generation being derived from Independent Power Producers (IPPs). In addition to the above-mentioned potential benefits, the proposed project site was selected due to:

- Global enthusiasm towards clean energy projects.
- Good wind resources suitable for the installation of a large wind energy facility.
    - Annual average of 8.1m/s at 80m
- The proposed project site has localised wind intensified by a funnelling effect caused by surrounding topographical features.
- The site is easily accessible from gravel roads off the N2 which will assist in the transportation of wind turbines to the site.
- The surrounding area is not densely populated.
- There is potential and appetite within the Makana Local Municipality to engage with new technologies and industries.

Social development

The landowners approached by the Applicant to be part of this wind energy project expressed their commitment to the project in the hope that utilisation of portions of their land for wind turbines will be a source of additional income to supplement their farming income.

In order to satisfy the requirements of the RFP issued by the DOE on 3 August 2011 Plan 8 (Pty) Ltd will need to comply with all minimum requirements as set out in scorecards published in this document. The document makes provision for local communities to be involved with owning, manufacturing and operating the wind farm. This will create much needed local jobs and uplift local communities in the area.

The local development plans will focus on:

- Job creation;
- Local content;
- Rural development;
- Education and skills development;
- Enterprise development;
- Socio-economic development;and
- Participation by previous disadvantaged people.

1.4. SCOPING PHASE

The proposed project is currently at the end of the Scoping Phase. The aim of this phase is to determine, in detail, the scope of the EIA required for the proposed activities. The principal objectives of the Scoping Phase in accordance with the regulatory requirements were to:

- Describe the nature of the proposed project;
- Enable preliminary identification and assessment of potential environmental issues or impacts to be addressed in the subsequent EIA phase;
- Define the legal, policy and planning context for the proposed project;
- Describe important biophysical and socio-economic characteristics of the affected environment;
- Undertake a public participation process that provides opportunities for all Interested and Affected Parties (I&APs) to be involved;
- Identify feasible alternatives that must be assessed in the EIA phase; and
- Define the Plan of Study (PoS) for the EIA phase.

1.5. THE SCOPING REPORT

This report is the first of a number of reports that will be produced in the EIA process (see Figure 1-1 above). The Scoping Report has been produced in accordance with the requirements as stipulated in Section 28 of the EIA regulations (GNR 543), which clearly outlines the content of a Scoping Report, and Sections 54-57 which cover the activities necessary for a successful Public Participation Process (PPP). Section 1.5.1 below provides the detailed structure of this Scoping report and section 1.5.2 that follows outlines the limitations and assumptions under which this report was compiled.

1.5.1. Structure

The structure of the report is as follows:

Chapter 1 - Introduction: Provides background information on the proposed project, a brief description of the EIA process required by NEMA and its associated regulations, and describes the key steps in the EIA process that have been undertaken thus far, and those that will be undertaken in the future. The details and expertise of the Environmental Assessment Practitioner (EAP) who prepared this report are also provided in this Chapter.

Chapter 2 – Project description: Provides a description of the proposed development, the property on which the development is to be undertaken and the location of the development on the property. The technical details of the process to be undertaken are also provided in this Chapter.

Chapter 3 – Relevant Legislation: Identifies all the legislation and guidelines that have been considered in the preparation of this Scoping Report.

Chapter 4 – Description of the affected environment: Provides a brief overview of the bio-physical and socio-economic characteristics of the site and its environs that may be affected by the

proposed development compiled largely from published information, but supplemented by information from a site visit.

Chapter 5 – Public Participation Process: Provides details of the public participation process conducted in terms of Regulation 28(a) including:

- The measures undertaken thus far to notify I&APs of the application;
- Proof that notice boards, advertisements and notices notifying potentially I&APs of the application have been displayed, placed or given;
- A list of all persons and organisations that were identified and registered in terms of Regulation 57 as I&APs in relation to the application.

Chapter 6 – Issues identified during Scoping: Provides a description of the key issues that have been identified by the project team and through discussions with I&APs thus far in the Scoping Phase, and that will be assessed in the EIA phase.

Chapter 7 - Alternatives: Provides a brief discussion of the feasible and reasonable alternatives to the present proposal that have been identified and considered, some of which will be investigated further in the EIA Phase.

Chapter 8 - Plan of Study: Sets out the proposed approach to the environmental impact assessment of the proposed project including:

- A description of the scope of work that will be undertaken as part of the EIA phase, including any specialist reports or specialised processes, and the manner in which the described scope of work will be undertaken;
- An indication of the stages at which the competent authority will be consulted;
- A description of the proposed methodology for assessing the environmental issues and alternatives, including the option of not proceeding with the proposed development;
- Particulars of the public participation process that will be conducted during the EIA phase, and;
- Any specific information required by the authority.

References: Cites any texts referred to during preparation of this report.

Appendices: Containing all supporting information

1.5.2. Assumptions and Limitations

This report is based on currently available information and, as a result, the following limitations and assumptions are implicit in it –

- Descriptions of the natural and social environments are based on limited fieldwork and available literature. More information will be provided in the EIA phase based on the outcomes of the specialist studies.
- The report is based on a project description taken from preliminary design specifications and site layouts for the proposed wind energy facility that have not yet been finalised and are likely to undergo a number of iterations and refinements before they can be regarded as definitive. All potential turbine array alternatives will, however, be contained within the property boundaries of the study area.
- The preliminary turbine site layout and associated infrastructure will be presented in the EIA phase and subject to the necessary specialist assessment. It is anticipated that this preliminary layout will be further refined in accordance with the outcomes of these studies and overall EIA findings.

1.6. DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

According to regulation 17 of the EIA regulations (2010), *An EAP must* **–**
(a) be independent; and
(b) have expertise in conducting environmental impact assessments, including knowledge of the Act, these Regulations and any guidelines that have relevance to the proposed activity

In fulfillment of the above-mentioned legislative requirement, provided below are the details of the Environmental Assessment Practitioner (EAP) that prepared this Finalt Scoping Report, as well as the expertise of the individual members of the study team.

1.6.1. Details of the EAP

Coastal and Environmental Services (CES)
Physical Address: 67 African Street, Grahamstown 6139
Postal Address: P.O. Box 934, Grahamstown 6140
Telephone: +27 46 622 2364
Fax: +27 46 622 6564
Website: www.cesnet.co.za
Email: info@cesnet.co.za

1.6.2. Expertise of the EAP

CES is one of the largest specialist environmental consulting firms in southern Africa. Established in 1990, and with offices in Grahamstown and East London, we primarily specialise in assessing the impacts of development on the natural, social and economic environments. CES's core expertise lies in the fields of strategic environmental assessment, environmental management plans, environmental management systems, ecological/environmental water requirements, environmental risk assessment, environmental auditing and monitoring, integrated coastal zone management, social impact assessment and state of environment reporting.

In addition to adhering to all relevant national legislative requirements, which we are often required to review and summarise for specific projects, acquisition of equity funding from the majority of financial institutions demands that developments must meet certain minimum standards that are generally benchmarked against the Policies and Performance Standards of the International Finance Corporation, and the World Bank Operational Directives and Policies. The quality of our work during our long and extensive association with heavy mineral mining in Africa (we have worked on large projects in South Africa, Mozambique, Malawi, Kenya, Madagascar and Egypt) has been acknowledged by international lenders such as the World Bank and the International Finance Corporation, and the large mining companies continue to approach us as their preferred environmental consultant for this type of project.

Provided below are short *curriculum vitae* (CVs) of each of the team members involved in the proposed Plan8 Grahamtown Wind Energy Project EIA.

Mr. Bill Rowlston*(Project Leader)*
Bill graduated from the University of Salford, England, with a first class honours degree in civil engineering in 1971, after which he worked for more than 36 years in the English and South African water sectors. He spent 24 years with the Department of Water Affairs and Forestry in South Africa where, as a hydraulics specialist, he contributed to the development of approaches for protecting water resources, including the determination of the ecological Reserve of South Africa's National Water Act. Bill was closely involved with the development of the National Water Policy (1997) and the National Water Act (1998), and was responsible for compiling the National Water Resource Strategy, First Edition (2005), much of which he wrote. He also supervised the development of guidelines for the preparation of sub-national catchment management strategies. He joined CES in April 2007, where, in addition to managing a number of environmental impact assessments, he has co-authored a Technical Report on the determination and implementation of environmental water requirements for the Ramsar Convention on Wetlands and coordinated the determination of the riverine impacts of a proposed peaking hydroelectric power station in Zambia. He has contributed to the development of a new national water law for Vietnam, South Africa's National Groundwater Strategy, and catchment management strategies in South Africa

Mr Hylton Newcombe (*Project Manager and Report Production)*
Hylton holds a BSc degree with majors in general ecology (Zoology), Environmental Science and Ichthyology; and Honours in Ichthyology from Rhodes University, and an MSc in Fisheries Science from Rhodes University. His Masters thesis, *The Contribution Towards the Development of a Management Plan for Tuna in South Africa* focused on quantifying and qualifying the size and shape of the tuna sport and baitboat fisheries coupled with biological research in age-growth analysis and genetics for yellowfin tuna *Thunnusalbacares*. His interests are focused within a broad range of marine studies, namely biodiversity surveys, jetty EIAs, outfall EIAs, conservation plans and dredging specialist studies.

Ms Leigh-Ann DeWet*(Ecological Specialist and Report Production)*
Environmental Consultant/Botanical Specialist. Leigh-Ann holds a BSc (Botany and Entomology) as well as a BSc (Hons) and MSc in Botany from RhodesUniversity. She conducts vegetation sensitivity assessments, in turn to aid and guide developments and thereby minimising their impacts on sensitive vegetation.

2. PROJECT DESCRIPTION

According to regulation 28(1) of the EIA regulations (2010), *A scoping report must include –*
(b) a description of the proposed activity;
(d) a description of the property on which the activity is to be undertaken and the location of the activity on the property, or if it is –
(i) a linear activity, a description of the route of the activity; or
(ii) an ocean-based activity
the coordinates where the activity is to be undertaken

In line with the above-mentioned legislative requirement, this chapter identifies the location and size of the site of the proposed Plan 8 Grahamstown wind energy project, and provides a description of its various components and arrangements on the site.

2.1. LOCATION AND SITE DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed Plan8 Grahamstown wind energy project is to be constructed outside of Grahamstown along the N2 in an easterly direction toward East London, in the Eastern Cape Province of South Africa. The proposed site is located on the farms Gilead, Tower Hill and Peynes Kraal, situated approximately 30km east of Grahamstown within the Makana Local Municipality district. The locations of the relevant farms are depicted in Figure 2-1.

During the Scoping process the three property portions comprising the study area were, for reporting purposes, designated at follows:

4. Gilead farm
    - Gilead farm No.361
5. Tower Hill
    - Coombs Vale farm No 3
6. Peynes Kraal
    - Peynes Kraal farm No. 362

All three farms were used for agricultural practices, including sheep and goat farming, but at present they are lying partly fallow.

A more detailed description of the activities associated with the proposed wind energy facility is contained in Section2.2.

2.2. DETAILED DESCRIPTION OF THE PLAN8 GRAHAMSTOWN WIND ENERGY PROJECT

The wind farm will be spread over three adjacent property portions in the Makana area. The three land portions are planned to host up to 27 turbines each with a nominal power output ranging between 2 and 3 megawatts (MW). The total potential generating capacity of the wind farm will be 67.5MW, which will serve to further support the regional and national power balance. The ultimate size of the wind turbines will depend on further technical assessments, but will typically consist of rotor turbines (3 x ±50m length blades) with rotor diameters of around 100 metres mounted atop a 80 - 100 metre high steel (or hybrid steel/concrete) tower

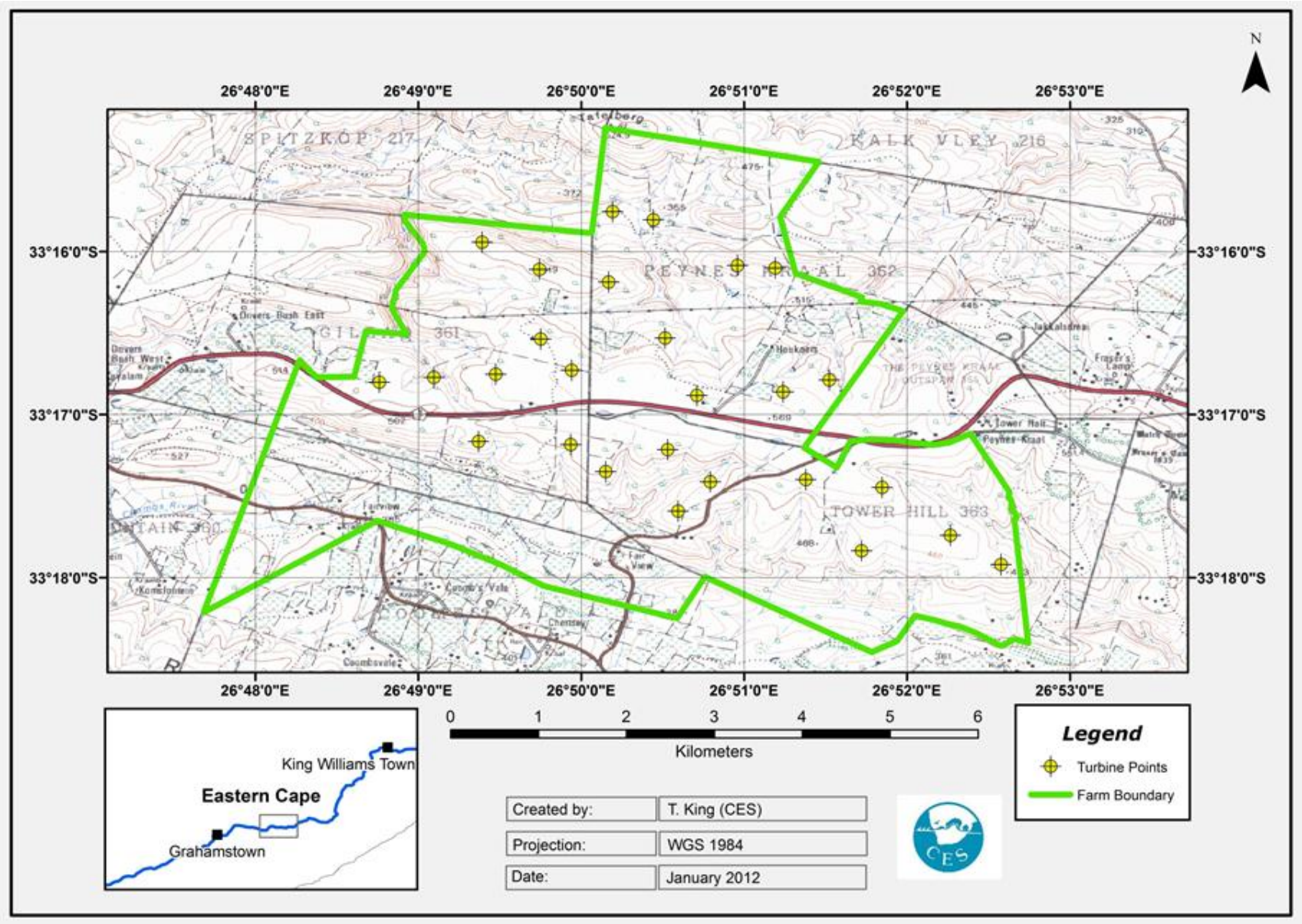


Figure 2-1: Topographical map indicating the proposed turbine placements of the proposed Plan8 Grahamstown wind energy project

Other infrastructure components associated with the proposed wind energy facility are *inter alia*:

- Concrete foundations to support the wind turbine towers.
- Internal access roads to each turbine - approximately 5 metres wide.
- Underground cables connecting the wind turbines.
- The 132kV line running across the site will be used as the distribution line
- Possible upgrading of existing roads for the transportation of the turbines to the wind energy facility.
- Buildings to house the control instrumentation and backup power support, as well as a store room for maintenance equipment.

2.2.1. Production of electricity from wind

Wind energy is a derivative form of solar energy. Winds are caused by the uneven heating of the atmosphere by the sun, the irregularities of the earth's surface, and rotation of the earth. Wind flow patterns are modified by the earth's terrain, bodies of water, and vegetation. This wind flow or motion energy (kinetic energy) can be used for generating electricity. The term “wind energy” describes the process by which wind is used to generate mechanical power and electricity. Wind turbines convert the kinetic energy in the wind into mechanical power and a generator can then be used to convert this mechanical power into electricity.

A typical wind turbine consists of (refer to Plate 2-1):-

- A *rotor,* with 3 blades that react with the wind and convert the energy into rotational motion.
- A *nacelle* which houses the equipment at the top of the tower
- A *tower*, to support the nacelle and rotor
- *Electronic equipment* such as controls, transformers, electrical cables and switchgear, ground support equipment, and interconnection equipment.

The amount of energy that the wind transfers to the rotor depends on the density of the air (the heavier the air, the more energy received by the turbine), the rotor area (the bigger the rotor diameter, the more energy received by the turbine), and the wind speed (the faster the wind, the more energy received by the turbine).

Provided in the sections that follow is a detailed discussion on the various components of the proposed Plan8 GrahamstownWind Energy Project.

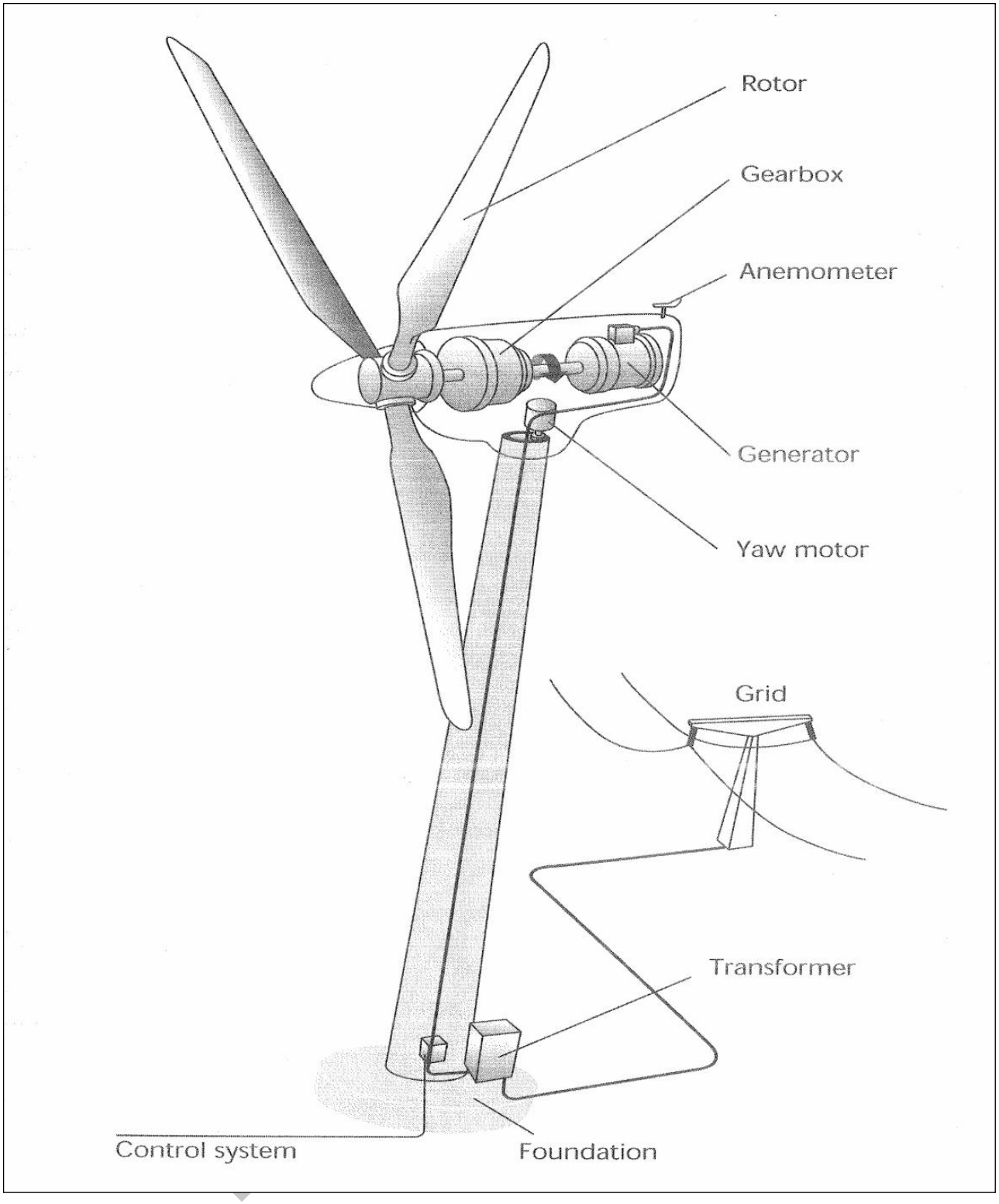


Plate 2-1: Illustration of the main components of a typical wind turbine
Note that the transformer in the figure above would normally be inside the tower (probably at the base).

2.2.2. Stages of windfarm development

Typically, the development of wind farm is divided into four phases namely:-

- Pre-feasibility
- Feasibility
- Wind measurement
- Implementation

Each of the above-mentioned phases is described in more detail in the sections that follow.

2.2.2.1. Pre-feasibility

During the pre-feasibility Plan8 (Pty) Ltd undertake surveys to ensure that obvious issues surrounding the project should not impact on the progress and the final acceptance of the project. This includes visits to local authorities, civil aviation authorities, identifying local communities, wind resource evaluation from existing data, grid connectivity, environmental impact assessment, logistical and project phasing requirements.

2.2.2.2. Feasibility

During the feasibility phase Plan8 (Pty) Ltd will carry out thorough investigation to establish and firm up the actual costs and economic viability of the project by designing the financial model with financial institutions, verifying wind resources by onsite measurement, ensuring grid connection is economical and feasible in the timeframes of the project, identifying possible off-takers for the electricity.Once the feasibility studies are complete Plan8 (Pty) Ltd will identify which parts of the project will be constructed first. Then, in an organised fashion the project will be expanded according to the availability of grid capacity and turbines. There are five construction phases envisaged which will allow for economical implementation of the project.

2.2.2.3. Wind Measurement

Prior to the establishment of the full facility it will be necessary to erect a wind measurement mast (see Figure 2-4) to gather wind speed data and correlate these measurements with other meteorological data in order to produce a final wind model of the proposed project site. A measurement campaign of at least 12 months in duration is necessary to ensure verifiable data is used for the economics of the project and finalise the positions of the wind turbines. The proposed 80 metre mast is a guyed lattice tower designed specifically for wind resource measurements. The mast will have to be ‘marked’ as per the requirements of the Civil Aviation Authority.

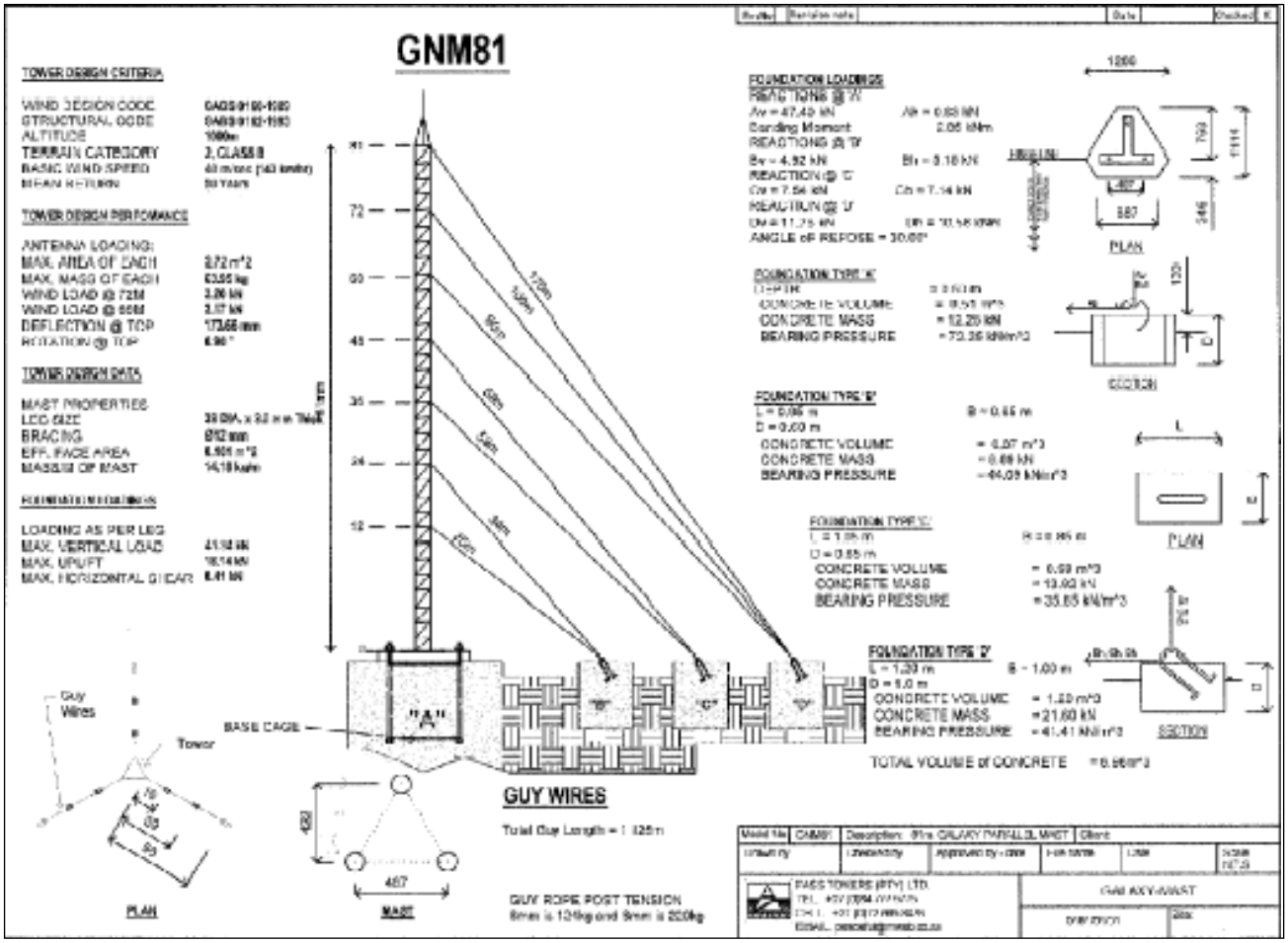


Plate 2-2: Typical measurement mast

The purpose of the mast is to gather wind speed and other meteorological data to produce a final wind model of the proposed project site prior to the establishment of a wind farm.

2.2.2.4. Implementation

Building a wind farm is divided into three phases, namely:-

- Civil works
- Construction
- Commissioning

Each of these phases, together with the operational and decommissioning phases, is described in more detail below.

Preliminary civil works

A temporary 'construction platform' is required at each turbine foundation site to ensure safe and stable access by heavy machinery and equipment (such as bulldozers, trucks and cranes) during the construction phase. These platforms will be connected by access roads (if none exist) that must meet the following requirements:

- 4m wide road with 2m clearance on either side of the road (total clear width of 8m)
- 30cm thick crusher-run stone bed
- Maximum 10% slope
- Curve radius of at least 25m

Once the wind farm is operational the construction platforms can be partially rehabilitated to reduce

the final cumulative area of the total development footprint of the individual turbines.

Construction Phase

This phase comprises the following sub-phases:

(a) Geotechnical studies and foundation works

A geotechnical study of the area is always undertaken to determine the nature of the material on which the turbines will be founded, and to inform the design of the foundation. This comprises drilling, penetration and pressure assessments. For the purpose of the foundations, approximately 500m^3 would need to be excavated for each turbine. These excavations are then filled with steel-reinforced concrete (typically 13 tons of steel reinforcement per turbine). The area and thickness of the foundations will vary according to the bearing capacity of the substrate. The main dimensions for the foundation of a 3MW/100m high wind turbine are shown in the Plate 2-3 with underground foundation, tower base, above ground foundation, and ground level.

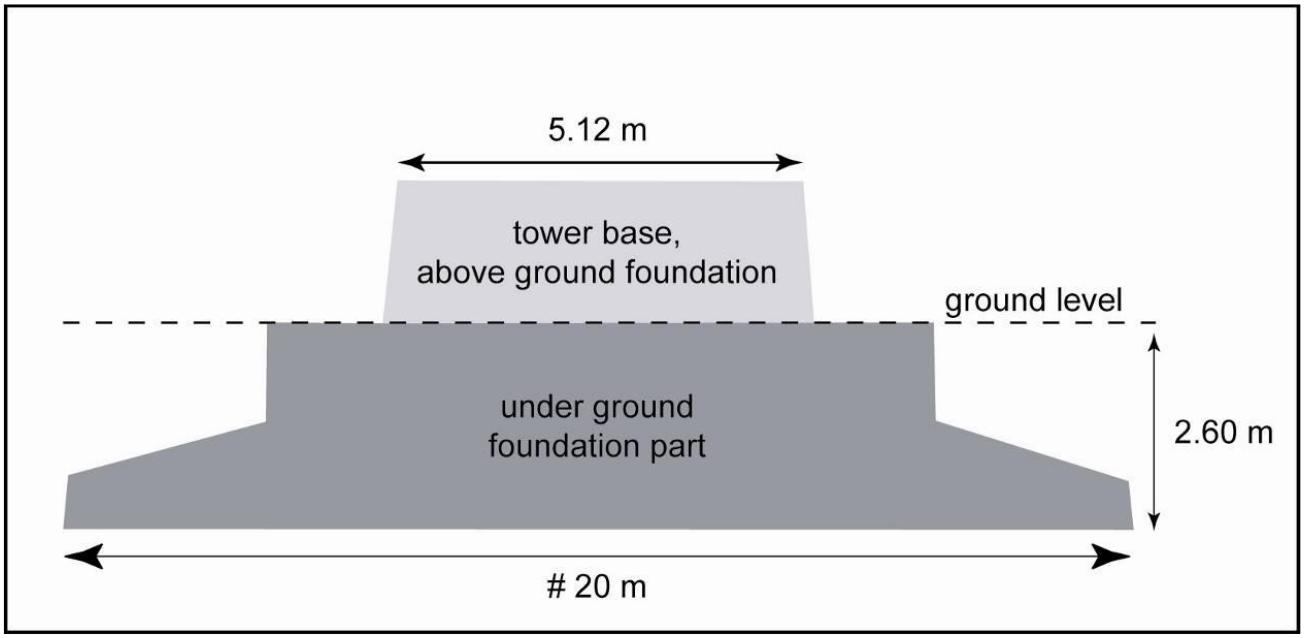


Plate 2-3: The main dimensions for the foundation of a 3MW/100m high wind turbine

(b) Electrical cabling

Electrical and communication cables are laid in trenches approximately 1m deep, alongside the access roads.

(c) Turbine erection

The process is relatively quick (around three days per turbine) if the weather conditions permit. This phase is the most complex and costly and utilises heavy-lift cranes in the assembly process (Plate 2-4).

Electrical connection

Each turbine is fitted with its own transformer that steps up the voltage usually to 22 or 33 kV. The entire wind farm is then connected to the “point of interconnection”, which is the electrical boundary between the wind farm and the national or municipal grid. Most of these works will typically be carried out by and in agreement with the transmission or distribution company (line upgrade, connection to the sub-station, burial of the cables etc.), Eskom, the local municipality, or

independent system operator as the case may be.

Plate 2-4: Assembly and erection of the tower sections

2.2.3. Timing estimation

Based on existing publications, the development, construction and implementation of a wind farm of these approximate dimensions would require the following construction sequencing per individual turbine:

- Preliminary phase: 13 weeks, including 8 weeks to let the foundation concrete achieve its final design strength
- Wind turbines erection: 8 weeks (in good, low-wind weather conditions)
- Commissioning and electrical connection: 8 weeks

2.2.4. Operational phase

During the period when the turbines are up and running, on-site human activity drops to a minimum and includes routine maintenance requiring only light vehicles to access the site. Only major breakdowns would necessitate the use of cranes and trucks.

2.2.5. Refurbishment and rehabilitation of the site after operation

Current wind turbines have a design life of around 25 years and this is the figure that has been used to plan the life span of a modern wind farm. Should the refurbishment of the wind farm be financially, environmental and socially viable, the life span can be extended by another 25 years. Plan8 (Pty) Ltd undertakes to dismantle all wind turbines and foundations to a depth of 1 metre underground. The excavation will be backfilled with soil, and grass will be replanted in order

restore the site's appearance to its original state within a matter of weeks. The only residual material is the deeper concrete works below surface.

3. RELEVANT LEGISLATION

According to regulation 28 (1) and (2) of the EIA regulations (2010), *A scoping report must include –*
1(f) an identification of all legislation and guidelines that have been considered in the preparation of the scoping report
(2) In addition, a scoping report must take into account any guidelines applicable to the kind of activity which is the subject of the application.

In line with the above-mentioned legislative requirement, the development of the proposed Plan8Grahamstown wind energy project described in Chapter 2 above will be subject to the requirements of a number of laws and other regulatory instruments, both international and national. These include:

3.1. INTERNATIONAL

3.1.1. The 1992 United Nations Framework Convention on Climate Change (FCCC)

The FCCC is a framework convention which was adopted at the 1992 Rio Earth Summit. South Africa signed the FCCC in 1993 and ratified it in August 1997 (Glazewsky, 2005). The stated purpose of the FCCC is to, "*achieve….stabilisation of greenhouse gas concentrations in the atmosphere at concentrations at a level that would prevent dangerous anthropogenic interference with the climate system*", and to thereby prevent human-induced climate change by reducing the production of greenhouse gases defined as, "*those gaseous constituents of the atmosphere both natural and anthropogenic, that absorb and re-emit infrared radiation*".

Relevance to the proposed Plan8Grahamstown Wind Energy Project:

- The FCCC is relevant in that the proposed project will contribute to a reduction in the production of greenhouse gases by providing an alternative to fossil fuel-derived electricity, and will assist South Africa to begin demonstrating its commitment to meeting international obligations.

3.1.2. The Kyoto Protocol (2002)

The Kyoto Protocol is a protocol to the FCCC was initially adopted for use on 11 December 1997 in Kyoto, Japan, and entered into force on 16 February 2005 (UNFCCC, 2009). The Kyoto Protocol is the chief instrument for addressing the causes and impacts of climate change. The major feature of the Protocol is that, "*it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions. These amount to an average of five per cent against 1990 levels, over the five-year period 2008-2011"* (UNFCCC, 2009). The major distinction between the Protocol and the Convention is that, "*while the Convention **encouraged** industrialised countries to stabilize GHG emissions, the Protocol **commits** them to do so".*

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The Kyoto Protocol is relevant in that the proposed project will contribute to a reduction in the production of greenhouse gases by providing an alternative to fossil fuel-derived electricity, and will assist South Africa to begin demonstrating its commitment to meeting international obligations

3.1.3. International principles and standards of relevance

Plan8 (Pty) Ltd intend to secure project financing from funding institutions that adhere to the Equator Principles, as well as the requirements as set out by the International Finance Corporation (IFC) Performance Standards. Accordingly, the EIA processes for projects that will be potentially financed by these institutions require that these respective standards and principles be adhered to. These are briefly discussed below.

The Equator Principles

The Equator Principles are a financial industry benchmark for determining, assessing and managing social and environmental risks to projects. There is close alignment between the Equator Principles and the IFC Guidelines, and by the end of 2003, 24 financial institutions had announced their commitment to the Equator Principles. They represent a voluntary set of environmental and social guidelines for project finance lending. These will be adhered to during this ESHIA process.

Box 1: The Equator Principles
(Adapted from www.equator-principles.com)

Principle 1 - Review and Categorisation: When a project is proposed for financing, the EPFI will, as part of its internal social and environmental review and due diligence, categorise such project based on the magnitude of its potential impacts and risks in accordance with the environmental and social screening criteria of the International Finance Corporation .
Principle 2 - Social and Environmental Assessment: The borrower has conducted a Social and Environmental Assessment ("Assessment") process to address the relevant social and environmental impacts and risks of the proposed project. The Assessment should also propose mitigation and management measures relevant and appropriate to the nature and scale of the proposed project.
Principle 3 - Applicable Social and Environmental Standards: The Assessment will refer to the then applicable IFC Performance Standards. The Assessment will establish the project's overall compliance with, or justified deviation from, the respective Performance Standards and EHS Guidelines. The Assessment process in both cases should address compliance with relevant host country laws, regulations and permits that pertain to social and environmental matters.
Principle 4 - Action Plan and Management System: The developer must prepare an Action Plan (which addresses the relevant findings, and draws on the conclusions of the Assessment. The action plan will describe and prioritise the actions needed to implement mitigation measures, corrective actions and monitoring measures necessary to manage the impacts and risks identified in the Assessment. Borrowers will build on, maintain or establish a Social and Environmental Management System.
Principle 5 - Consultation and Disclosure: The government, borrower or third party expert must consult with project affected communities in a structured and culturally appropriate manner and adequately incorporate affected communities' concerns.
Principle 6 - Grievance Mechanism: The borrower should, scaled to the risks and adverse impacts of the project, establish a grievance mechanism as part of the management system. This will allow the borrower to receive and facilitate resolution of concerns and grievances about the project's social and environmental performance raised by individuals or groups from among project-affected communities.
Principle 7 - Independent Review: An independent social or environmental expert not directly associated with the borrower will review the Assessment, action plants and consultation process documentation.
Principle 8 - Covenants: An important strength of the Principles is the incorporation of covenants linked to compliance of all relevant host country laws, accepted action plans and relevant standards.
Principle 9 - Independent Monitoring and Reporting: Ensure ongoing monitoring and reporting over the life of the loan. The proponent will require the appointment of an independent environmental and/or social expert, or retain qualified and experienced external experts to verify its monitoring information which would be shared with the funding agency.
Principle 10 - Reporting: Each funding agency adopting the Equator Principles commits to report publicly at least annually about its Equator Principles implementation processes and experience, taking into account appropriate confidentiality considerations.

3.2. NATIONAL

3.2.1. The Constitution Act (108 of 1996)

This is the supreme law of the land. As a result, all laws, including those pertaining to the proposed development, must conform to the Constitution. The Bill of Rights - Chapter 2 of the Constitution, includes an environmental right (Section 24) according to which, 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; and
(iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- Obligation to ensure that the proposed development will not result in pollution and ecological degradation; and
- Obligation to ensure that the proposed development is ecologically sustainable, while demonstrating economic and social development.

3.2.2. The National Environmental Management Act (NEMA) (107 of 1998) as amended

The objective of NEMA is: "*To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith*."

A key aspect of NEMA is that it provides a set of environmental management principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. The proposed development has been assessed in terms of possible conflicts or compliance with these principles. Section 2 of NEMA contains principles (see Box 3) relevant to the proposed project, and likely to be utilised in the process of decision making by DWEA.

BOX 3: NEMA ENVIRONMENTAL MANAGEMENT PRINCIPLES

(2)	Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
(3)	Development must be socially, environmentally and economically sustainable.
(4)(a)	Sustainable development requires the consideration of all relevant factors including the following: i. That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; ii. That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied; iii. That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner.
(4)(e)	Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.
(4)(i)	The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
(4)(j)	The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
(4)(p)	The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.
(4)(r)	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.

As these principles are utilised as a guideline by the competent authority in ensuring the protection of the environment, the proposed development should be in accordance with these principles. Where this is not possible, deviation from these principles would have to be very strongly motivated.

NEMA introduces the duty of care concept, which is based on the policy of strict liability. This duty of care extends to the prevention, control and rehabilitation of significant pollution and environmental degradation. It also dictates a duty of care to address emergency incidents of pollution. A failure to perform this duty of care may lead to criminal prosecution, and may lead to the prosecution of managers or directors of companies for the conduct of the legal persons.

Employees who refuse to perform environmentally hazardous work, or whistle blowers, are protected in terms of NEMA.

In addition NEMA introduces a new framework for environmental impact assessments, the EIA Regulations (2006) discussed previously.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The developer must be mindful of the principles, broad liability and implications associated with NEMA and must eliminate or mitigate any potential impacts.
- The developer must be mindful of the principles, broad liability and implications of causing damage to the environment.

3.2.3. The National Environment Management: Biodiversity Act (10 of 2004)

This Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act 107 of 1998 (see Box 4). In terms of the Biodiversity Act, the developer has a responsibility for:

a) The conservation of endangered ecosystems and restriction of activities according to the categorisation of the area (not just by listed activity as specified in the EIA regulations).
b) Application of appropriate environmental management tools in order to ensure integrated environmental management of activities thereby ensuring that all developments within the area are in line with ecological sustainable development and protection of biodiversity.
c) Limit further loss of biodiversity and conserve endangered ecosystems.

The objectives of this Act are:

d) To provide, within the framework of the National Environmental Management Act, for –
  (i) The management and conservation of biological diversity within the Republic;
  (ii) The use of indigenous biological resources in a sustainable manner.

The Act's permit system is further regulated in the Act's Threatened or Protected Species Regulations, which were promulgated in February 2007.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The proposed development must conserve endangered ecosystems and protect and promote biodiversity;
- Must assess the impacts of the proposed development on endangered ecosystems;
- No protected species may be removed or damaged without a permit;
- The proposed site must be cleared of alien vegetation using appropriate means

3.2.4. The National Forests Act (84 of 1998)

The objective of this Act is to monitor and manage the sustainable use of forests. In terms of Section 12 (1) (d) of this Act and GN No. 1012 (promulgated under the National Forests Act), no person may, except under licence:

- Cut, disturb, damage or destroy a protected tree; or
- Possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree.
- of any protected tree or any forest product derived from a protected tree.

Relevance to the proposed Plan8GrahamstownWind Energy Project:
• If any protected trees in terms of this Act occur on site, the developer will require a licence from the DWA to perform any of the above-listed activities.

BOX 4: MANAGEMENT AND CONSERVATION OF SOUTH AFRICA'S BIODIVERSITY WITHIN THE FRAMEWORK OF NEMA

CHAPTER 4	
	Provides for the protection of species that are threatened or in need of national protection to ensure their survival in the wild; o to give effect to the Republic's obligations under international agreements regulating international trade in specimens of endangered species; and o ensure that the commercial utilization of biodiversity is managed in an ecologically sustainable way.
CHAPTER 5 (Part 2)	
Section 73	A person who is the owner of land on which a listed invasive species occurs must: a) notify any relevant competent authority, in writing, of the listed invasive species occurring on that land; b) take steps to control and eradicate the listed invasive species and to prevent it from spreading; and c) take all required steps to prevent or minimise harm to biodiversity.
Section 75	• Control and eradication of a listed invasive species must be carried out by means of methods that are appropriate for the species concerned and the environment in which it occurs. • Any action taken to control and eradicate a listed invasive species must be executed with caution and in a manner that may cause the least possible harm to biodiversity and damage to the environment. • The methods employed to control and eradicate a listed invasive species must also be directed at the offspring, propagating material and re-growth of such invasive species in order to prevent such species from producing offspring, forming seed, regenerating or re-establishing itself in any manner.

3.2.5. National Heritage Resources Act (25 of 1999)

The protection of archaeological and palaeontological resources is the responsibility of a provincial heritage resources authority and all archaeological objects, palaeontological material and meteorites are the property of the State. "*Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority*".

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- An archaeological impact assessment must be undertaken during the detailed EIR phase of the proposed project.
- No person may alter or demolish any structure, or part of a structure, which is older than 60 years or disturb any archaeological or palaeontological site or grave older than 60 years without a permit issued by the relevant provincial heritage resources authority.
- No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter or deface archaeological or historically significant sites.

3.2.6. National Environmental Management: Air Quality Act (39 of 2004)

The objective of the Air Quality Act is to protect the environment by providing the necessary legislation for the prevention of air pollution.

This Act is currently the central legislation for the prevention of air pollution. Part VI deals with dust control – measures for the control of dust in specified areas, either in general or by specified machinery or in specified instances; steps that must be taken to prevent nuisance by dust; or other measures aimed at the control of dust.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The "best practicable means" for the abatement of dust during construction if approved have to be taken.
- All appliances used for preventing or reducing to a minimum the escape into the atmosphere of noxious or offensive gases have to be properly operated and maintained and the best practice means for achieving this implemented.

3.2.7. The White Paper on Energy Policy for South Africa (Energy White Paper)

The White Paper on the Energy Policy for South Africa (Energy White Paper) is an overarching document which sets out the government's official policy on the supply and consumption of energy for the next decade. One of the main goals of the White Paper is to create energy security by diversifying the energy supply and energy carriers. Currently much of South Africa's energy is derived from extremely expensive imported fuels and coal-powered energy generation, which could be threatened by climate change response measures of developed countries (refer to section 3.1 above). The White Paper points out that, South Africa has abundant energy sources and it stresses that, "*all possible energy carriers should be tapped to ensure economic growth and development*". Many of the sectors contributing to the Gross Domestic Product (GDP) are practically driven by these energy carriers. In fact, according to Glazwesky (2005), industry as a whole consumes approximately 40% of the total electricity generated, making it the chief energy source for South Africa's economic growth and development.

In addition to the above the Energy White Paper notes that there is currently insufficient renewable energy data and lack of transparency in publicly sharing the data. Information on renewable energy system applications, system standards, installation and performance guides, technical and economic characteristics, and identifying human training capacity is essential as the government commits to a healthier environment as part of their agenda. The position of the Energy White Paper on renewable energy is based on the integrated resource planning principle of, "*ensuring that an equitable level of national resources is invested in renewable technologies, given their potential and compared to investments in other energy supply options*", and this has subsequently been elaborated by the White Paper on Renewable Energy (see section 3.2.9 that follows).

Relevance to the proposed Plan8Grahamstown Wind Energy Project:

- The proposed Wind Farm project is a direct consequence of the Government's White Paper on Energy Policy and the requirements therein to improve energy security of supply through diversification, as well as the demonstration and introduction of cleaner energy technologies and the promotion of competition and empowerment in the electricity market.

3.2.8. The White Paper on Renewable Energy Policy (Renewable Energy White Paper)

The White Paper on the Renewable Energy Policy (Renewable Energy White Paper) complements the White Paper on Energy Policy discussed in section 3.2.8 above, by pledging "*Government Support for the development, demonstration and implementation of renewable energy sources for both small and large scale applications*". It sets out the policy principles, goals and objectives to achieve, "*An energy economy in which modern renewable energy increases its share of energy consumed and provides affordable access to energy throughout South Africa, thus contributing to sustainable development and environmental conservation*". The Department of Minerals and Energy (DME) (now the Department of Energy) embarked on an Integrated Energy Plan (IEP) to develop the renewable energy resources, while taking safety, health and the environment into consideration. The government set a target of, "*10 000 GWh (0.8Mtoe) renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro*". Four strategic areas that needed to be addressed to create the appropriate enabling environment for the promotion of renewable energy were identified. These included:

- Financial instruments;
- Legal instruments;
- Technology development, and;
- Awareness raising, capacity building and education.

3.2.9. Integrated Energy Plan for the Republic of South Africa, March 2003

The former Department of Minerals and Energy (DME) commissioned the Integrated Energy Plan (IEP) in response to the requirements of the National Energy Policy in order to provide a framework by which specific energy policies, development decisions and energy supply trade-offs could be made on a project-by-project basis. The framework is intended to create a balance between energy demand and resource availability so as to provide low cost electricity for social and economic development, while taking into account health, safety and environmental parameters.

In addition to the above, the IEP recognised the following:

- South Africa is likely to be reliant on coal for at least the next 20 years as the predominant source of energy;
- New electricity generation will remain predominantly coal based but with the potential for hydro, natural gas and nuclear capacity;
- Need to diversify energy supply through increased use of natural gas and new and renewable energies;
- The promotion of the use of energy efficiency management and technologies;
- The need to ensure environmental considerations in energy supply, transformation and end use;
- The promotion of universal access to clean and affordable energy, with the emphasis on household energy supply being coordinated with provincial and local integrated development programmed;
- The need to introduce policy, legislation and regulations for the promotion of renewable energy and energy efficiency measures and mandatory provision of energy data, and;
- The need to undertake integrated energy planning on an on-going basis.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The proposed Wind Farm project is in line with the IEP with regards to diversification of energy supply and the promotion of universal access to clean energy.

3.2.10. Electricity Regulation Act (Act No. 4 of 2006)

The Electricity Regulation Act (Act No. 4 of 2006) took effect on 1 August 2006 and the objectives of this Act are to:

- Facilitate universal access to electricity;
- Promote the use of diverse energy sourcesand energy efficiencies, and;
- Promote competitiveness and customer and end user choice.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The proposed Wind Farm project is in line with the call of the Electricity Regulation Act No. 4 of 2006 as it is has the potential to improve energy security of supply through diversification.

3.2.11. Electricity Regulation on New Generation Capacity (Government Gazette No 32378 of 5 August 2009)

On 5 August 2009 the South African Government promulgated the Electricity Regulations on New Generation Capacity (Government Gazette No 32378), which were made by the Department of Energy in terms of the Electricity Regulation Act 2006 (see 3.2.11 above), and are applicable to:- (a) all types of generation technology including renewable generation and co-generation technology (i.e. landfill gas, small hydro (less than 10 MW), wind and concentrated solar power (with storage)) but excluding nuclear power generation technology; (b) base load, mid-merit and peak generation; and (c) take effect from the date of promulgation, unless otherwise indicated.

The objectives of these regulations are:

- The regulation of entry by a buyer and an Independent Power Producer (IPP) into a power purchase agreement;
- The facilitation of fair treatment and the non-discrimination between IPP generators and the buyer;
- The facilitation of the full recovery by the buyer of all costs incurred by it under or in connection with the power purchase agreement and an appropriate return based on the risks assumed by the buyer there under and, for this purpose to ensure the transparency and cost reflectivity in the determination of electricity tariffs;
- The establishment of rules and guidelines that are applicable in the undertaking of an IPP bid programme and the procurement of an IPP for purposes of new generation capacity;
- The provision of a framework for the reimbursement by the regulator, of costs incurred by the buyer and the system operator in the power purchase agreement, and;
- The regulation of the framework of approving the IPPbid programme, the procurement process, the Renewable Feed-in Tariff (REFIT) programme, and the relevant agreements to be concluded.

The Guidelines describe the basic structure of the REFIT programme, including the roles of various parties in the programme, namely National Energy Regulator of South Africa (NERSA), Eskom and renewable energy generators. Pursuant to the Guidelines, Eskom's "Single Buyer Office" is to be appointed as the Renewable Energy Purchasing Agency (REPA), the exclusive buyer of power under the REFIT programme. Generators participating in the REFIT scheme are required to sell power generated by renewable technologies to Eskom as the REPA under a Power Purchase Agreement, and are entitled to receive regulated tariffs, based on the particular generation technology. NERSA is tasked with the administration of the REFIT programme, including setting the tariffs and verifying that generation is genuinely from renewable energy sources.

While the Regulations deal generally with procurement under an IPP bid programme (defined in the Regulations to mean a bidding process for the procurement of new generation capacity and/or ancillary services from IPPs), and specify the use of a bidding process involving requests for prequalification, requests for proposals and negotiations with the preferred bidder, the Regulations

set out a special process for the procurement of renewable energy and cogeneration under the REFIT programme, described in Regulation 7. This Regulation states that NERSA is to, "*develop rules related to the criteria for the selection of "renewable energy IPPs… that qualify for a licence"* and sets out a list of matters that the criteria prescribed by NERSA should take account of. These include:

- Compliance with the integrated resource plan and the preferred technologies;
- Acceptance by the IPP of a standardised power purchase agreement;
- Preference for a plant location that contributes to grid stabilisation and mitigates against transmission losses;
- Preference for a plant technology and location that contributes to local economic development;
- Compliance with legislation in respect of the advancement of historically disadvantaged individuals;
- Preference for projects with viable network integration requirements;
- Preference for projects with advanced environmental approvals;
- Preference for projects demonstrating the ability to raise finance;
- Preference for small distributed generators over centralized generators; and
- Preference for generators that can be commissioned in the shortest time.

According to Dewey &LeBouef (August, 2009), it appears, therefore, that successful REFIT projects may not be selected through a conventional bidding process, but instead, applications will be selected on the basis of prescribed criteria. Just what such criteria are, and how they will be applied and weighted is not yet clear, but it is expected that this will be set out in the rules to be developed by NERSA as required by Regulation 7(2)(a).

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The proposed Plan8 Grahamstown Wind Energy Project is required to comply with any guidelines relating to the IPP bid programme and the REFIT programme.

3.2.12. Aviation Act (Act No. 74 of 1962): 13th Amendment of the Civil Aviation Regulations 1997

Section 14 - Obstacle limitations and marking outside aerodrome or heliport (CAR Part 139.01.33) - under this Act specifically deals with wind turbine generators (wind farms). According to this section, "*A wind turbine generator is a special type of aviation obstruction due to the fact that at least the top third of the generator is continuously variable and offers a peculiar problem in as much marking by night is concerned.* The Act emphasizes that, when wind turbine generators are grouped in numbers of three or more, they will be referred to as "wind farms".

Of particular importance to the proposed project are the following:-

- **Wind farm placement:** Due to the potential of wind turbine generators to interfere on radio navigation equipment, *no wind farm should be built closer than 35km from an aerodrome*. In addition, much care should be taken to consider visual flight rules routes, proximity of known recreational flight activity such as hang gliders, en route navigational facilities etc.
- **Wind farm markings:** *Wind turbines shall be painted bright white to provide the maximum daytime conspicuousness. The colours grey, blue and darker shades of white should be avoided altogether. If such colours have been used, the wind turbines shall be supplemented with daytime lighting, as required*.

- **Wind farm lighting:**
  - Wind farm (3 or more units) Lighting: *In determining the required lighting of a wind farm, it is important to identify the layout of the wind farm first*. This will allow the proper approach to be taken when identifying which turbines need to be lit. Any special consideration to the site's location in proximity to aerodromes or known corridors, as well as any special terrain considerations, must be identified and addressed at this time. Details are as follows:
    - Not all wind turbine units within an installation or wind farm need to be lit. Definition of the periphery of the installation is essential. Lighting of interior wind turbines is of lesser importance unless they project above the peripheral units. This can be the case when higher ridges or plateaus are present within the wind farm area.
    - Obstruction lights within a group of wind turbines should have unlighted separations or gaps of no more than 800m if the integrity of the group appearance is to be maintained. This is especially critical if the arrangement of objects is essentially linear, as is the case with most wind turbine groups.
    - Any array of flashing or pulsed obstruction lighting, intended to warn of a group of wind turbines forming an entity (i.e., a line, string, or series of units), shall be synchronized to flash simultaneously. If an installation consists of a number of widespread, but obviously separated areas or entities more than 1500m from each other, it is not necessary that all such areas flash synchronously.
    - Night time wind turbine obstruction lighting should consist of medium intensity type B aviation red flashing lights. Minimum intensities of 2000 candela for night-time red flashing or strobe lights are required. *Note: Steady-burning obstruction lights shall not be used.*
    - White medium intensity type A strobe lights may be used in lieu of the preferred medium intensity type B strobe lights, but must be used alone without any red lights, and must be positioned in the same manner as the red flashing lights.
    - Since the hub of the wind turbine unit is frequently as large as the nacelle (body) itself, a top-mounted obstruction light should be raised well above the surface of the nacelle so that it may be easily seen from directly in front of the turbine. Placement of the light fixtures on the turbine nacelle should be accomplished to ensure that they are visible from 360 degrees, with particular attention being made to ensure that the hub of the turbine rotor in no way blocks the light from an aircraft approaching the windward side of the turbine at the same elevation as the turbine hub.
    - When possible, antennas or towers of heights over 45m that are within the turbine farm area should be incorporated into the lighting plan for the site, as they offer tall, unobstructed platforms on which lighting fixtures can be mounted and should be included in the synchronization and spacing calculations.
    - Each turbine should only require one fixture if the site is monitored, and that *a failed light fixture can be replaced within the next working day*. Failure to replace a failed fixture, which is essential to maintaining the 800m-separation requirement, will result in an unsafe gap in the lighting configuration. *If the facility does not possess the capability to replace fixtures within the next working day, each turbine shall be fitted with two separate fixtures.* A well-balanced lighting plan has all the light fixtures within the wind farm flash at the same time, thus delineating the farm as one large obstruction and navigation between the turbines should be discouraged. The synchronisation function can be accomplished through various means, either by radio frequency devices, hard-wired control cables, or independently mounted global positioning system synchroniser units. The site developer can decide the selection of the units, as long as the end result is that all lights flash perceivably at the same time. If the developer fails to synchronise the fixtures, the developer will be required to add additional fixtures at closer spacing. The very basis of the lighting standards for wind farms is centered on the synchronous flashing of the perimeter lighting.

- **Turbine lighting assignment:** *The following guidelines should be followed to determine which turbines, need to be equipped with lighting fixtures. Again, the placement of the lights is contingent upon which type of configuration is being used.*
    - Linear: A light should be placed on each turbine positioned at each end of the line or string of turbines. From those end turbines, lights should then be positioned such that the next lit turbine is no more than 800m, from the last lit turbine. This pattern should continue until the end of the string is reached. If the last segment is significantly short, it may be practical to move the lit turbines back one or two turbines towards the starting point to present a nice, well-balanced string of lights. A high concentration of lights, in close proximity, should be avoided.
    - Cluster: A starting point should be selected along the outer perimeter of the cluster. This turbine should be lit, and then, continuing along the outer perimeter of the farm, a light should be placed on the next turbine with the maximum gap between the lit turbines being no more than 800m. This pattern should continue around the perimeter of the cluster, and end at the starting point. If it appears that the lights are crowded at the ending point, the lit turbines may be moved back by one turbine to present a balanced lighting presentation. If it is determined that the distance across the cluster is of a distance greater than 1500m, or the terrain may vary within the cluster (+30m from the perimeter elevations), it may be appropriate to place a few lit turbines at strategic locations throughout the centre of the cluster. This will prevent pilots from believing they may be able to climb over the outer perimeter and descend down into the centre of the cluster. Discretion should be used when placing these lights to maintain a well-balanced, safe lighting configuration.
    - Grid: Initially, each of the defined corners of the grid layout should be selected for lighting, and then, using the same concept of the cluster configuration, lights should be placed on turbines along the outer limits of the farm so that the maximum spacing between lit turbines is no more than 800m. If it appears as though the end of the lighting strings may be crowded, it may be necessary to move the lights back one or two turbines to create an even lighting configuration. If the grid is more than 1500m wide across the centre of the group of turbines, it may be appropriate to position one or two lights within the centre of the configuration to again provide warning to pilots attempting to climb over the outer limits of the grid, and descending into the centre of the grid. Elevation should also be considered.
    - Special Instances: On occasion, if one or two turbines may be positioned at locations that do not lend themselves to the linear, cluster, or grid layouts, the following guidelines should be followed. If the turbine protrudes from the general limits of the wind farm, the turbine should automatically receive a lighting fixture. If another turbine is collocated with the first turbine, it does not require any lighting as long as it is within 150m from the lit turbine and not positioned on the outboard side of the lit turbine. If these requirements cannot be met, both turbines, in this case, would need to be illuminated.

Due to requirements of the Act to ensure the safety of aircraft the applicant will engage directly with the Civil Aviation Authority regarding the structural details of the facility.

3.2.13. Occupational Health and Safety Act (85 of 1993)

The objective of this Act is to provide for the health and safety of persons at work (See Box 5). In addition, the Act requires that, "*as far as reasonably practicable, employers must ensure that their activities do not expose non-employees to health hazards*" (Glazewski, 2005: 575). The importance of the Act lies in its numerous regulations, many of which will be relevant to the proposed wind energy project. These cover, among other issues, noise and lighting.

Relevance to the proposed Plan8GrahamstownWind Energy Project:

- The developer must be mindful of the principles and broad liability and implications contained in the OHSA and mitigate any potential impacts.

BOX 5: HEALTH AND SAFTY OF PERSONS AT WORK ACCORDING TO THE OCCUPATIONAL HEALTH AND SAFETY ACT

8: GENERAL DUTIES OF THE EMPLOYERS TO THEIR EMPLOYEES	
(1)	Every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees.
(2)	Without derogating from the generality of an employer's duties under subsection (1), the matters to which those duties refer include in particular- a) The provision and maintenance of systems of work, plant and machinery that, as far as is reasonably practicable, are safe and without risks to health; b) Taking such steps as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard to the safety or health of employees, before resorting to personal protective equipment; d) Establishing, as far as is reasonably practicable, what hazards to the health or safety of persons are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in his business, and he shall, as far as is reasonably practicable, further establish what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons, and he shall provide the necessary means to apply such precautionary measures; e) Providing such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of his employees; f) As far as is reasonably practicable, not permitting any employee to do any work or to produce, process, use, handle, store or transport any article or substance or to operate any plant or machinery, unless the precautionary measures contemplated in paragraphs (b) and (d), or any other precautionary measures which may be prescribed, have been taken; g) Taking all necessary measures to ensure that tire requirements of this Act are complied with by every person in his employment or on premises under his control where plant or machinery is used; h) Enforcing such measures as may be necessary in the interest of health and safety; i) Ensuring that work is performed and that plant or machinery is used under the general supervision of a person trained to understand the hazards associated with it and who have the authority to ensure that precautionary measures taken by the employer are implemented; and authority as contemplated in Section 37 (1) (b).
14: GENERAL DUTIES OF EMPLOYEES AT WORK **Every employee shall at work:-**	
(a)	Take reasonable care for the health and safety of himself and of other persons who may be affected by his acts or omissions;
(b)	As regards any duty or requirement imposed on his employer or any other person by this Act, cooperate with such employer or person to enable that duty or requirement to be performed or complied with;
(c)	Carry out any lawful order given to him, and obey the health and safety rules and procedures laid down by his employer or by anyone authorized thereto by his employer, in the interest of health or safety;
(d)	If any situation which is unsafe or unhealthy comes to his attention, as soon as practicable report such situation to his employer or to the health and safety representative for his workplace or section thereof, as the case may be, who shall report it to the employer; and
(e)	If he is involved in any incident which may affect his health or which has caused an injury to himself, report such incident to his employer or to anyone authorized thereto by the employer, or to his health and safety representative, as soon as practicable but not later than the end of the particular shift during which the incident occurred, unless the circumstances were such that the reporting of the incident was not possible, in which case he shall report the incident as soon as practicable thereafter.
15: DUTY NOT TO INTERFERE WITH, DAMAGE OR MISUSE THINGS **[S. 15 substituted by S. 3 of Act No. 181 of 1993.]**	
	No person shall intentionally or recklessly interfere with, damage or misuse anything which is provided in the interest of health or safety.

3.2.14. Other relevant national legislation

Other national legislation that may be relevant to the proposed Plan8Grahamstown West wind energy project includes:-

- The **Telecommunications Act (1966)**as amended, which has certain requirements with regard to potential impacts on signal reception.

- The **Environment Conservation Act No 73 of 1989 (ECA) Noise Control Regulations**, which specifically provide for regulations to be made with regard to the control of noise, vibration and shock, including prevention, acceptable levels, powers of local authorities and related matters.

In addition to the above, aside from the environmental authorisation, there are other permits, contracts, licences and authorisations that will need to be obtained by the applicant for the proposed project some of which fall outside the scope of the EIA. However, for the purposes of completeness, these include:-

- LocalMunicipality: Land Rezoning Permit
- National Energy Regulator of South Africa (NERSA): Generation License
- Eskom: Connection agreement and Power Purchase Agreement (PPA)

3.3. MUNICIPAL BY-LAWS

Certain activities related to the proposed development may, in addition to national legislation, be subject to control by municipal by-laws. Relevant by-laws will be identified as part of the various specialist studies during the EIA Phase. Some of these conditions reflect the requirements of the Makana Local Municipality and, among others, relate to noise levels. In addition, there will be certain requirements related to the health and safety during construction and approval of method statements, particularly for excavation work.

At this stage in the EIA process the above list should not be regarded as definitive or exhaustive, and it is probable that additional legislative requirements will be identified as the process progresses. In this regard, the Terms of Reference for most of the specialist studies will include the need for a review of all relevant legislation pertaining to the proposed development

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

According to regulation 28 (1) of the EIA regulations (2010), *A scoping report must include –*

(e) a description of the environment that may be affected by the activity and the manner in which activity may be affected by the environment

In line with the above-mentioned legislative requirement this chapter provides a description of the natural and socio-economic environments that could potentially be impacted by the proposed Plan8Grahamstown wind energy project.

Descriptions of the flora and fauna are based on a brief on-site investigation undertaken and a survey of the relevant literature to determine what could reasonably be expected to be found or occur in the study area. The profile includes some basic demographic data on the municipal area, and an indication of the production capacity and employment of the various sectors of the economy of the Province as a whole.

4.1. THE BIO-PHYSICAL ENVIRONMENT

4.1.1. Climate and Hydrology

Due to the location of the study area at the confluence of several climatic regimes, namely temperate and subtropical, the Eastern Cape Province of South Africa has a complex climate. There are wide variations in temperature, rainfall and wind patterns, mainly as a result of movements of air masses, altitude, mountain orientation and the proximity of the Indian Ocean.

The Makana region falls in the heart of three major transitional climatic regions:-

- From the south-western region there is a maritime influence of winter rainfall. In this region it changes to spring and autumn rainfall with south easterly winds bringing torrential rains which are very variable and inconsistent.
- From Grahamstown north–eastwards the rainfall changes to a general summer rainfall.
- The interior south of the Winterberg is affected by both these climatic patterns, with cold fronts and little winter rain, but summer rain from sporadic thunder showers.

Winds and alternating cold and warm fronts thus make for a very variable climate throughout the region. Grahamstown normally receives about 470m of rainfall per year and, because it receives most of its rainfall during winter, it has a Mediterranean climate. On average Grahamstown receives the lowest rainfall (16mm) in July and the highest (57mm) in March. The monthly distribution of average daily maximum temperatures indicates that the average midday temperatures for Grahamstown range from 18.9°C in July to 26.8°C in February. The region is the coldest during July when the mercury drops to 5.6°C on average during the night.

4.1.2. Topography

The Eastern Cape Province contains a wide variety of landscapes, from the stark Karoo (the semi-desert region of the central interior of the country) to mountain ranges and gentle hills rolling down to the sea. The climate and topography give rise to the great diversity of vegetation types and habitats found in the region. The mountainous area on the northern boundary of the province forms part of the Great Escarpment. Another part of the escarpment lies just north of Bisho, Somerset East and Graaff-Reinet. In the south of the province the Cape Folded Mountains start between East London and Port Elizabeth and continue westward into the Western Cape. As is the situation in KwaZulu-Natal, the Eastern Cape is characterised by a large number of short, deeply incised rivers flowing parallel to each other.

The area of the proposed wind energy facility comprises a series of ridges which are flat to undulating, surrounding deeply incised valleys and undulating hills (Plate 4.1).

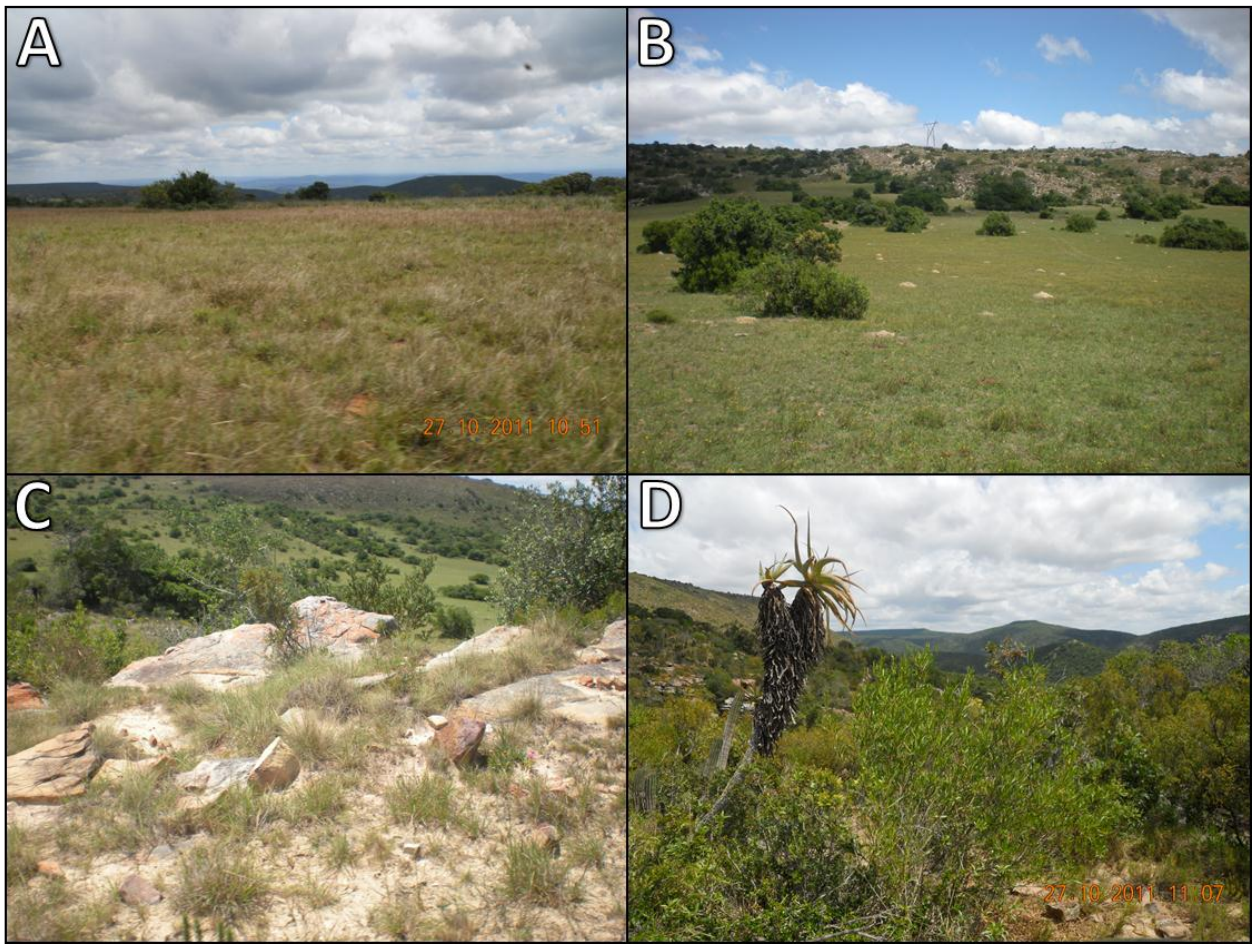


Plate 4.1: A: Flat areas on top of the ridges. B: undulating hills. C: Rocky outcrops on steep slopes and D: deeply incised valleys.

4.1.3. Geology and Soils

Grahamstown is situated in the eastern part of the Cape Fold Belt and is underlain mainly by rocks of the Witteberg Group of the Cape Supergroup, and the DwykaandEcca groups of the Karoo Supergroup (Figure 4-1).

In the general area the oldest rocks of the Cape Supergroup are the shales and sandstones of the Weltevrede Formation, overlain by resistant quartz arenites of the Witpoort Formation. These quartzites are overlain by fine-grained shales and thin sandstones of the Lake Mentz and Kommadagga subgroups (Jacob *et al*, 2004). The published geological map of the Grahamstown region (Council for Geoscience, 1995) does not indicate the presence of the Kommadagga Subgroup in the Grahamstown area (Figure 4-1). However, the Miller, Swartwaterspoort and Soutkloof formations of the Kommadagga Subgroup crop out west of Grahamstown, as well as the lowermost Dirkskraal Formation, immediately below the Dwyka Group. The rocks in the Kommadagga Subgroup are mainly shales, with minor greywacke and arenite sandstone units. Feldspar content increases upward in these rocks near the base of the Dwyka Group, reflecting cooler and drier conditions at the onset of glaciation.

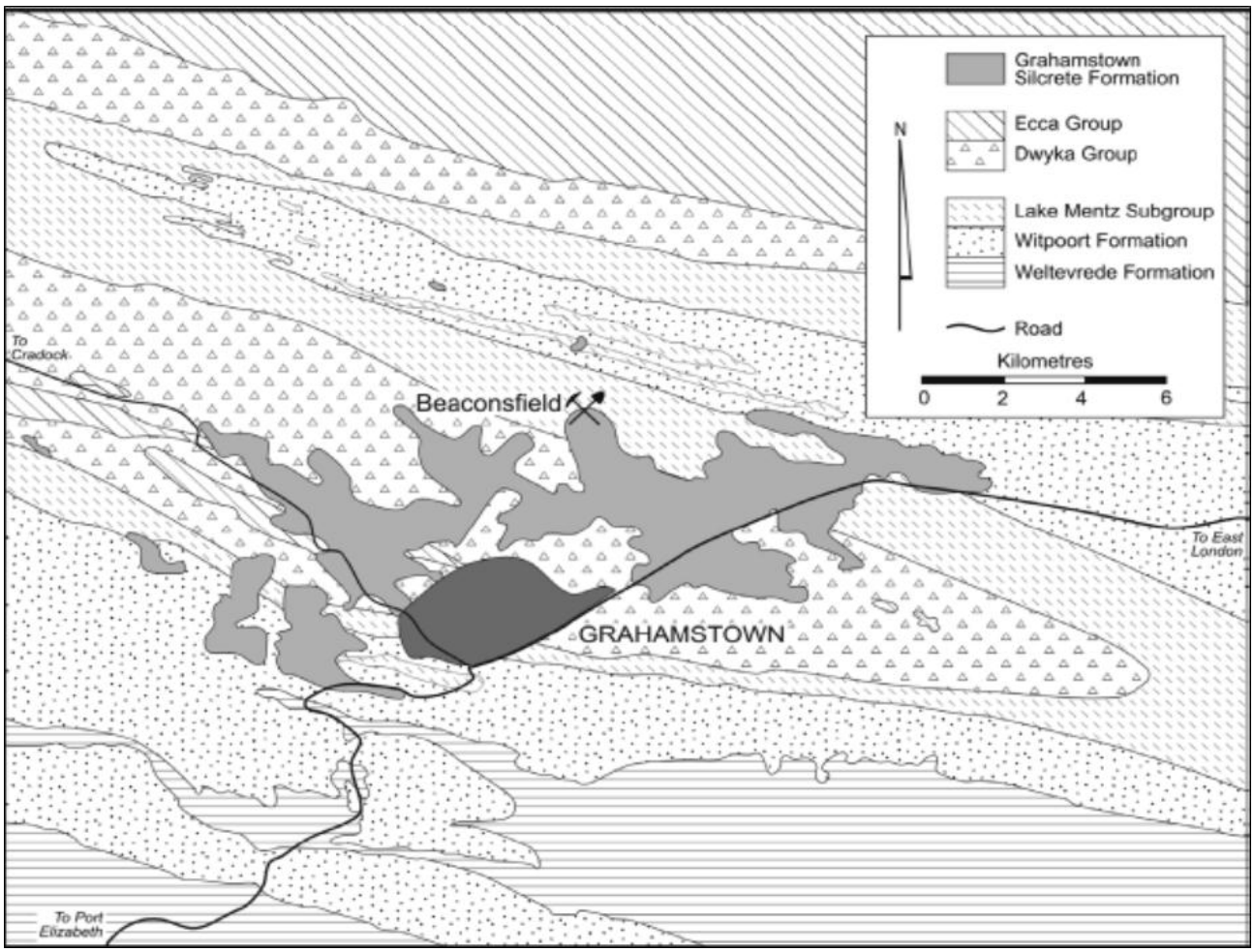


Figure 4-1: Simplified geological map of the area around Grahamstown. Adapted from 1:250 000 scale sheet 3326 Grahamstown
Source: Jacob et al. (2004)

The Witteberg Group rocks are overlain by rocks of the Dwyka Group, the basal unit of the Karoo Supergroup. The contact generally is poorly exposed but probably is paraconformable (Jacob *et al*, 2005). The Dwyka consists mainly of glacial diamictite and is composed of a variety of angular to rounded clasts of various igneous and sedimentary rocks set in a fine-grained, dark, massive argillaceous matrix. The overlying argillaceous and arenaceous rocks of the Ecca Group occur mainly to the north of the area. In the area around Grahamstown, the Dwyka Group forms a syncline whose fold axial trace trends East South East (ESE) (see Figure 4-1). This syncline plunges at a low angle to the West North West (WNW). To the north and south of the syncline, quartzite ridges of the Witpoort Formation form the higher-lying hills that enclose the area where the Grahamstownpeneplain was developed. The peneplain varies in altitude from 620 to 660m above sea level. The original peneplain extended more than 300 km^2. However, only a remnant, about 34 km^2, remains. Remnants of this peneplain owe their preservation to the resistant layer of silcrete, which hinders erosional destruction. Clay deposits underlie the peneplain and represent mainly the deeply weathered profile that developed during Cretaceous to Tertiary times.

4.1.4. Vegetation and Floristic

The vegetation of the Eastern Cape is complex and is transitional between the Cape and subtropical floras, and many taxa of diverse phytogeographical affinities reach the limits of their distribution in this region. The region is best described as a tension zone where four major biomes converge and overlap (Lubke*et al.* 1988). The dominant vegetation is Succulent Thicket (Spekboomveld or Valley Bushveld), a dense spiny vegetation type unique to this region. While species in the canopy are of subtropical affinities, and generally widespread species, the

succulents and geophytes that comprise the understorey are of karroid affinities and are often localised endemics.

The Makana Municipal area is a region of floral transition and complexity, as it forms a major climatic, topographical, geological and pedological (soil) transition zone where four phytogeographical regions (plant regions) converge. The Cape floral elements extend eastwards along the Cape mountains and diminish in abundance from Grahamstown to the east. The Tongoland-Pondoland flora enters the region along the east coast, and thicket vegetation penetrates up the river valleys. The succulent and sub-desert shrublands of the Karoo-Namib region extend down the dry river valleys from the arid interior. Afromontane elements of grassland and forest vegetation types extend down the mountains of Africa. In many of the plant communities of the area, a great complexity of floral elements is evident, and the area is described as a phytochorologically mixed flora. This means that the area is rich in plant diversity, with numerous interesting plants from a range of plant regions.

Albany, honouring the Duke of York, was the name given to the region (formerly called Zuurveld) around Grahamstown in 1814. This name has been used by botanists and phytogeographers to recognise a centre of endemism, an area with unusually high concentrations of plant species with restricted distributions (van Wyk and Smith, 2001). The Albany Centre is an important area of succulent endemism, many of which are associated with the xeric thicket vegetation in the region.

As described above, Grahamstown falls within the Albany Centre of Floristic Endemism; also known as the Albany Hotspot (Figure 4-2). This is an important centre for plant taxa, and, according to van Wyk and Smith (2001), contains approximately 4000 vascular plant species with approximately 15% either endemic or near-endemic (Victor and Dold, 2003). This area was delimited as the '*region bounded in the west by the upper reaches of the Sundays and Great Fish River basins, in the east by the Indian Ocean, in the south by the Gamtoos–GrootRiver basin and in the north by the KeiRiver basin*' (Victor &Dold, 2003)

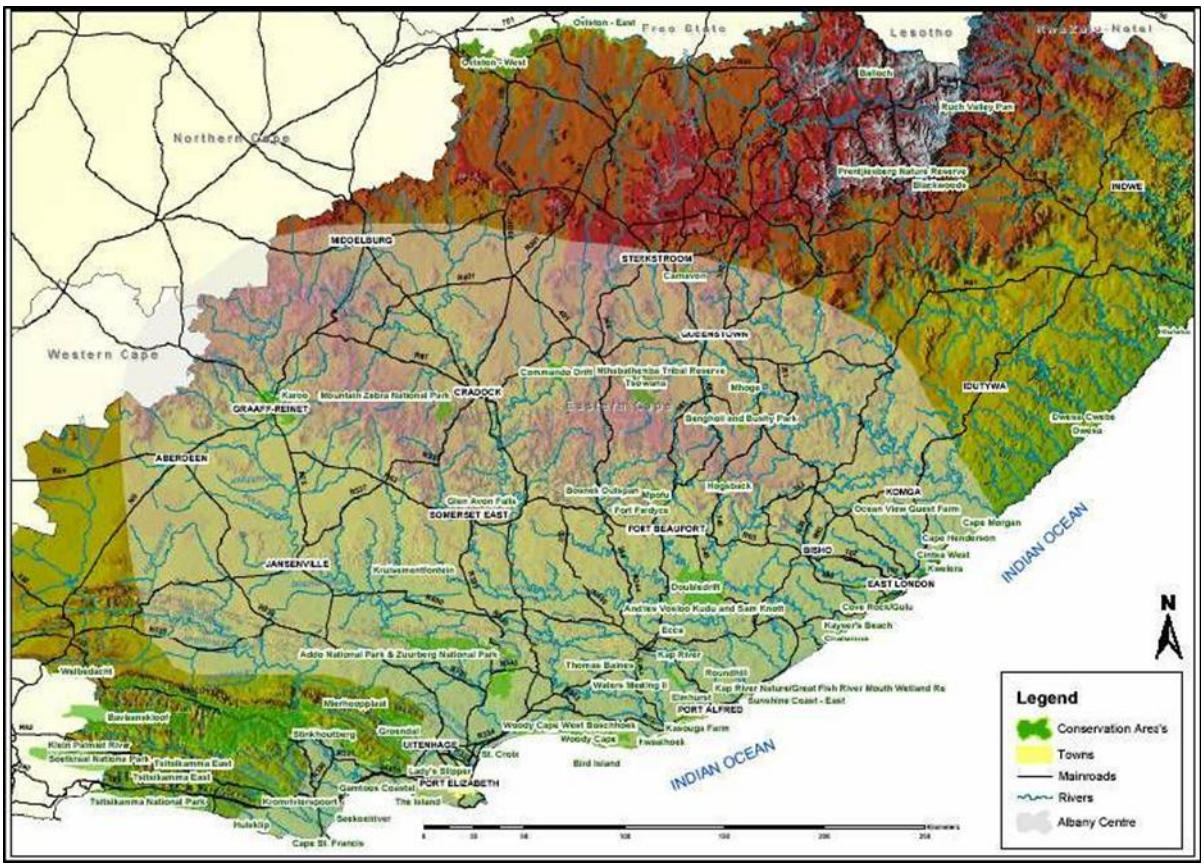


Figure 4-2: The Albany Centre of Endemism, also known as the 'Albany Hotspot', has long been recognised as an important centre of plant species diversity and endemism
(From van Wyk and Smith 2001).

4.1.5. Species of Special Concern (SSC)

Species endemic to the area are described by Mucina and Rutherford (2006). In addition to the endemic taxa, there are also a number of species expected to be found in the study area, some of which are listed as protected by various conservation bodies. The list is not complete, as many species and taxa require additional study. The taxa with many data deficient species include specifically the Mesembranthemaceae family, which Victor and Dold (2003) estimate would have 72 species that should, but do not, occur on the list. Thus all species of the family are included as Species of Special Concern (SSC). Victor and Dold (2003) also include a number of other taxa as important; including members of the Amaryllidaceae (Amaryllids), Iridaceae (Irises), Orchidaceae (Orchids) and Apocynaceae (Lianas), as well as members of the genus *Aloe*.

Potential Species of Special Concern (PSSC) include all those plants listed in terms of the IUCN, CITES and both national and provincial legislation that may occur in the area of study. If any of these species are found to occur on site, they are given the status of Confirmed Species of Special Concern (CSSC). Such a list will be produced in the EIA stage of the proposed development. The list of PSSC includes over 130 species which are listed individually by Victor and Dold (2003), the IUCN red data list, the South African National Biodiversity Institute (SANBI), the Forests Act and the Provincial Conservation Ordinance (PNCO) 16 of 1974 for the Eastern Cape. In addition, the PNCO lists eight plant families and six plant genera that are afforded blanket protection throughout the province.

Confirmed Species of Special Concern (CSSC) have been identified from the initial brief site visit (Plate 4.2). These species have been identified as occurring on site and thus are given confirmed status. It is very likely that more SSC will be found on site in the ecological impact assessment site visit.

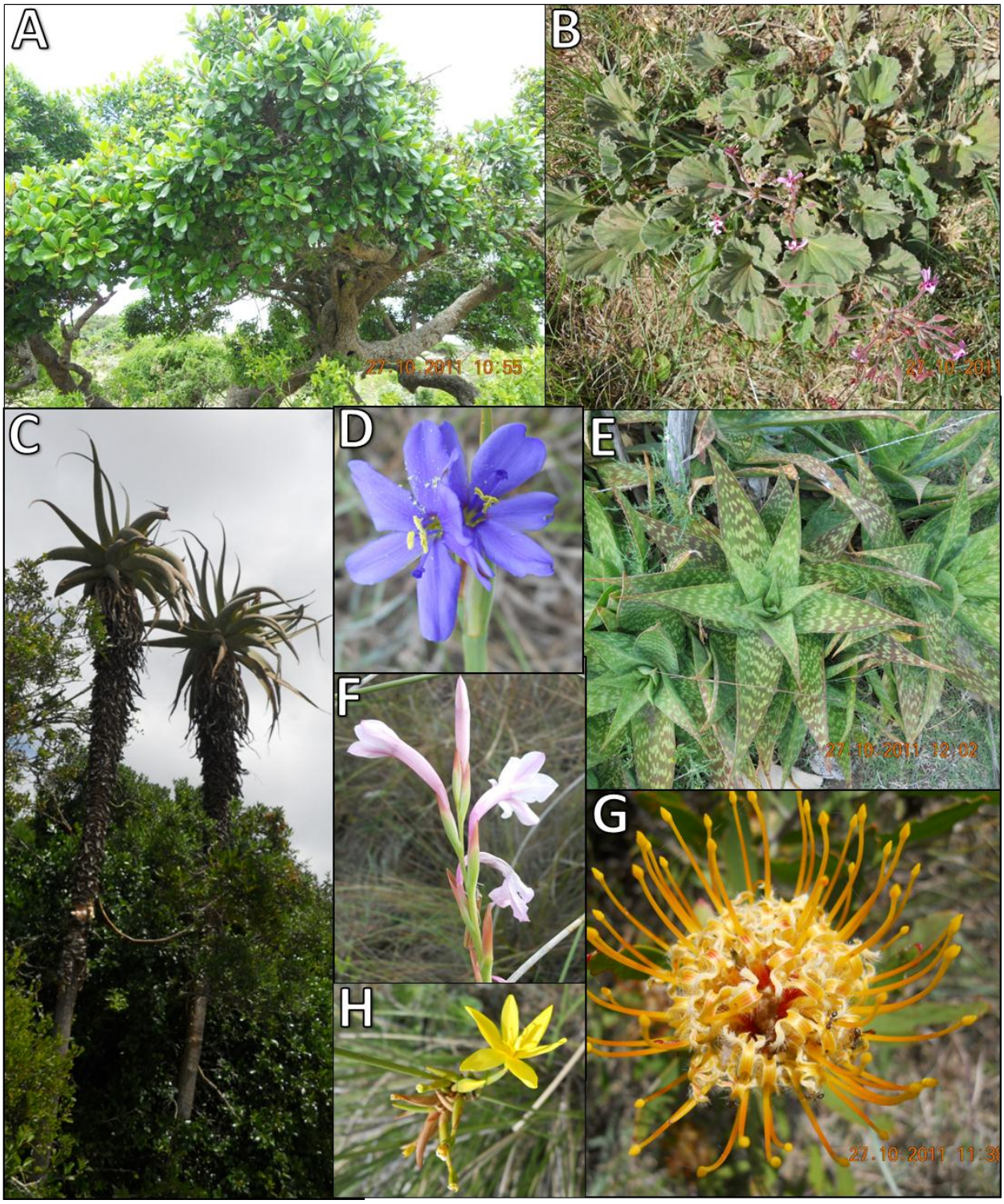


Plate 4.2: Confirmed Species of Special Concern (CSSC). A: *Sideroxyloninerme*(Forest Act), B: *Pelargonium reniforme* (IUCN), C: *Aloe africana* (PNCO, CITES), D: *Aristeaabyssinica*(PNCO), E: *Aloe maculata* (PNCO, CITES), F: *Watsoniasp*(PNCO), G: *Leucospermumsp* (PNCO) and H: *Bobariaorientalis* (PNCO).

4.1.6. Alien invasive species

It is likely that a number of alien invasive species already occur on site, some of these are shown in Plate 4.3 below. It is important that these are properly controlled. Additional information on alien invasives will be given in the EIA phase as part of the Ecological Impact Assessment.

Plate 4.3: Some alien invasive species. A: *Echinopsisspachiana* (Schedule 1), B: *Eucalyptus grandis*(Schedule 2), C: *Agave americana*(Schedule 2), D: *Opuntiaficus-indica* (Schedule 1) and E: *Acacia mearnsii*(Schedule 2).

4.1.7. Regional Vegetation

The vegetation types described by Mucina and Rutherford (2006) for the area are Kowie Thicket and BishoThornveld (Figure 4.-3):

Kowie Thicket

This vegetation type is restricted to the Eastern Cape Province, in river valleys (Mucina& Rutherford 2006). It occurs on mainly steep and north-facing (dry) slopes. Tall thickets dominated by succulent euphorbias and aloes with a thick understory composed of thorny shrubs, woody lianas (*Capparis, Secamore, Rhoicissus, Aloe*), and shrubby succulents (Crassulaceae, Asphodelaceae). Moister south-facing slopes support thorny thickets dominated by low evergreen trees (*Azima, Carissa, Gymnosporia, Putterlickia*) with fewer succulent shrubs and trees. The herbaceous layer is poorly developed (Mucina & Rutherford 2006).

This vegetation type is listed as Least Threatened, with a conservation target of 19% (Mucina& Rutherford 2006). 5% is statutorily conserved and 14% in private conservation areas. 7% is transformed, primarily by cultivation. This vegetation type is the core of the Albany Thicket Biome and the major florisitc node of the Albany Centre of endemism (Mucina & Rutherford 2006).

BishoThornveld

This vegetation type occurs in the Eastern Cape Province inland from the coast from Mthatha to North of East London as far as Fort Beaufort and occurring near Grahamstown (Mucina& Rutherford 2006). BhishoThornveld occurs on undulating planes and shallow drainage valleys. It comprises open savannah characterised by small trees of *Acacia natalitia* with a short to medium, dense, sour grassy understory, usually dominated by *Themedatriandra*. A diversity of other woody species may occur, increasing under conditions of overgrazing. The vegetation type is wide-ranging, and fire and grazing are important determinants (Mucina & Rutherford 2006).

This vegetation type is listed at Least Threatened by Mucina and Rutherford (2006). The conservation target is 25%, with only 0.2% statutorily conserved and 2% privately conserved. 20% has been transformed, mainly for cultivation, urban development or plantations (Mucina & Rutherford 2006).

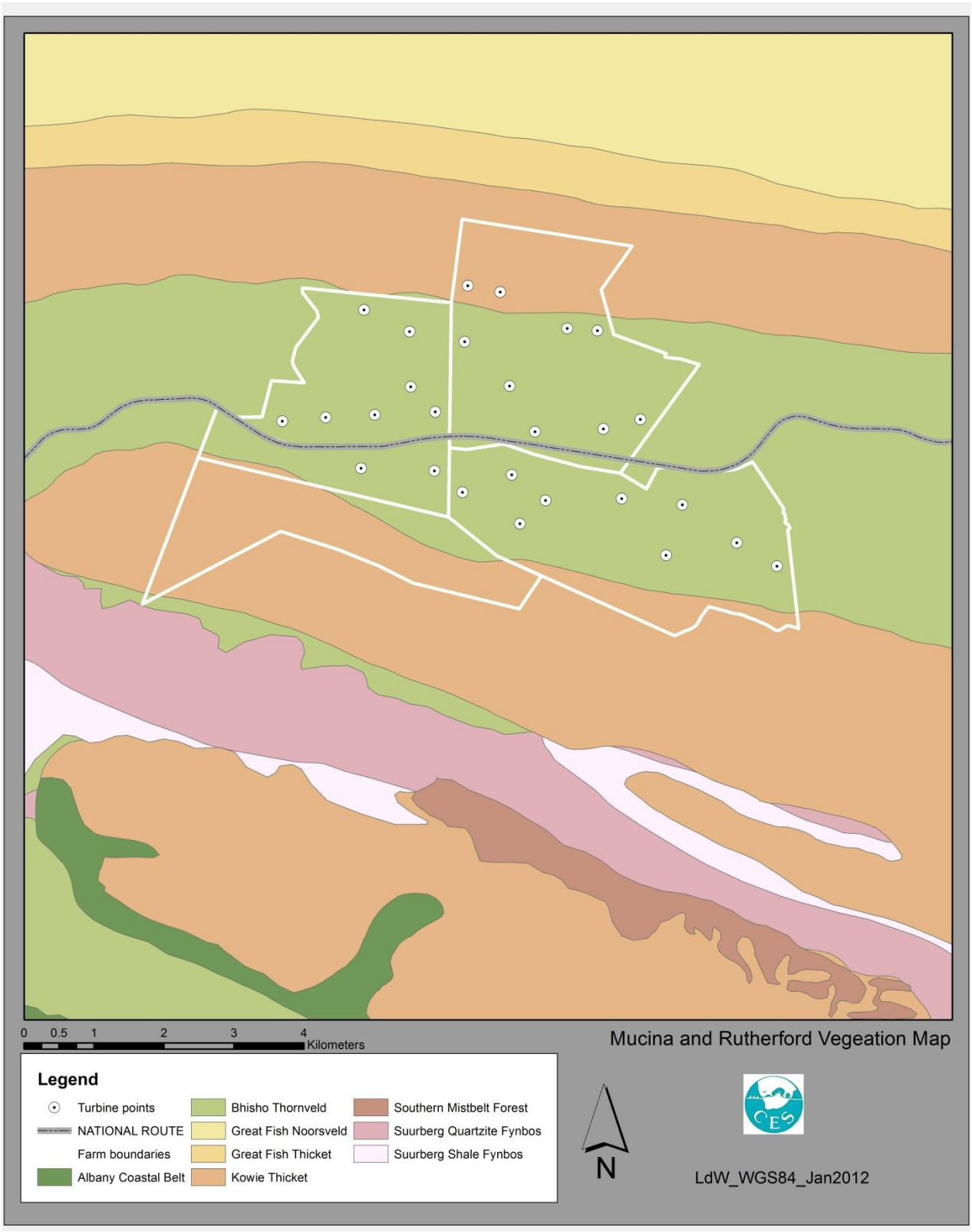


Figure 4.3: Mucina and Rutherford vegetation map of the study area.

STEP describes the vegetation types of the area as Grahamstown grassland thicket, Albany Coastal Thornveld and Albany Valley Thicket (Figure 4-4):

Grahamstown Grassland Thicket

Thicket clumps are typical of Albany Thicket, and contain taaibos (*Rhuspallens*), katdoring (*Scutiamyrtina*), kiepersol (*Cussoniaspicata*) and poison peach (*Diospyrosdicrophylla*) (Pierce &

Mader 2006). The grassland matrix has many fynbos elements (*Erica*sp and *Restiotriticeus*) as well as numerous species of rare localised endemic species, such as the genus *Brachystelma*. Grahamstown Grassland Thicket is listed as Least Threatened by STEP (Pierce & Mader 2006).

Albany Coastal Thornveld

Albany Coastal Thornveld is dominated by sweet thorn trees (*Acacia karroo*) and a dense grassland dominated by *Themedatriandra, Heteropogoncontortus*and*Tristachyaleucothrix* with an admixture of fynbos elements (Pierce & Mader 2006). This vegetation type is listed at Least Threatened by STEP (Pierce & Mader 2006).

Albany Valley Thicket

The dominant tree species of Albany Thicket include doppruim (*Pappeacapensis*) and qwarrie (*Eucleaundulata*) (Pierce &Mader 2006). Characteristic species include the succulents *Aloe Africana* and*Kalanchoerotundifolia*. The most distinguishing feature is the tall *Euphorbia tetragona* plants emerging above the canopy. Albany Valley Thicket is listed as Vulnerable by STEP (Pierce & Mader 2006).

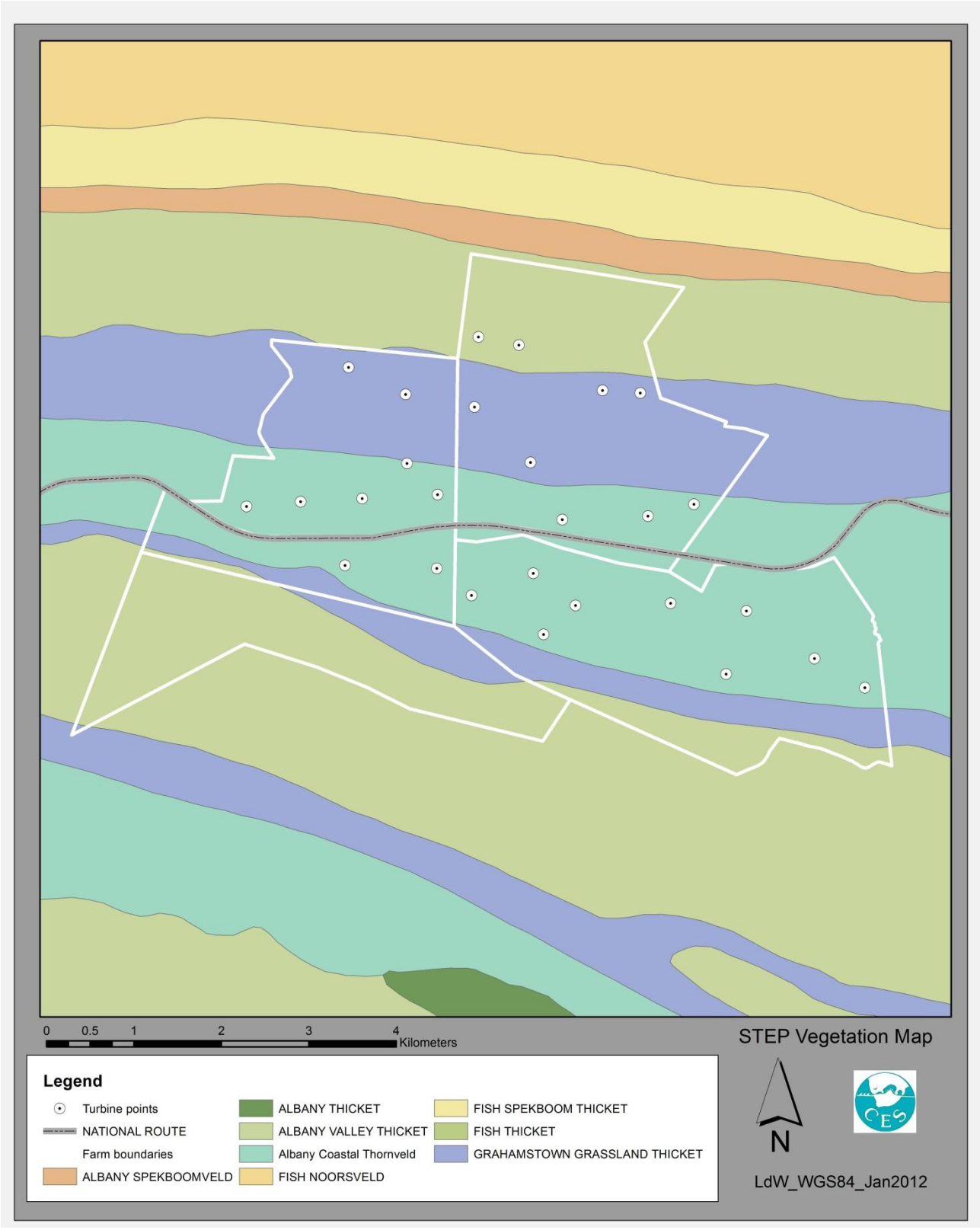


Figure 4-4: STEP vegetation map of the study area.

Subtropical Thicket Ecosystem Planning (STEP) Project

The STEP Project covers the south-eastern Cape region, which extends from the Kei River to Riversdale. The project area covers the unique, indigenous vegetation type known as thicket, with the aim being to assess the region's biodiversity. The assessment measured how much of the thicket vegetation had been damaged or destroyed through anthropogenic impacts and determined the degree to which biodiversity is endangered in different areas. The project aims to guide the necessary but destructive development away from areas of endangered biodiversity and promote sustainable land use.

In terms of STEP (2004), a feature that has much more extant habitat than is needed to meet its target, is considered Currently Not Vulnerable OR Least Threatened (Table 4-1).

For Currently Not Vulnerable vegetation, STEP recommends three Land use management procedures, these include:

1. Proposed disturbance or developments should preferably take place on portions which have already undergone disturbance or impacts rather than on portions that are undisturbed or unspoilt by impacts.
2. In response to an application for a non-listed activity which will have severe or large-scale disturbance on a relatively undisturbed site (unspoilt by impacts), the Municipality should first seek the opinion of the local conservation authority.
3. For a proposed "listed activity", EIA 2.1 authorisation is required by law.

From a Spatial planning (forward planning – Spatial Development Framework (SDF)) point of view, for Currently Not Vulnerable vegetation, STEP presents two restrictions and gives examples of opportunities. The two spatial planning restrictions are as follows:

1. Proposed disturbance or developments should preferably take place on portions which have already undergone disturbance or impacts rather than on portions that are undisturbed.
2. In general, Class IV land can withstand loss of disturbance to natural areas through human activities and developments.

Opportunities depend on constraints, such as avoidance of spoiling scenery or wilderness, or infra-structure limitations. Class IV land can withstand loss of, or disturbance to, natural areas and, within the constraints this class may be suitable for a wide range of activities (extensive urban development, cultivation, tourist accommodation, ecotourism and game faming, for instnace).

Table 4-1: Summary of the STEP Project conservation priorities, classifications and general rules

Source: Pierce, 2003

Conservation priority	Classification	Brief Description	General Rule
IV	Currently not vulnerable area	Ecosystems which cover most of their original extent and which are mostly intact, healthy and functioning	Depending on other factors, this land can withstand loss of natural area through disturbance or development
III	Vulnerable area	Ecosystems which cover much of their original extent but where further disturbance or destruction could harm their health and functioning	This land can withstand limited loss of area through disturbance or development
II	Endangered area	Ecosystems whose original extent has been severely reduced, and whose health, functioning and existence is endangered	This land can withstand minimal loss of natural area through disturbance or development

Conservation priority	Classification	Brief Description	General Rule
I Highest Priority	Critically endangered area	Ecosystems whose original extent has been so reduced that they are under threat of collapse or disappearance. Included here are special ecosystems such as wetlands and natural forests	This Class I land can NOT withstand loss of natural area through disturbance or development. Any further impacts on these areas must be avoided. Only biodiversity-friendly activities must be permitted.
High Priority	Network Area	A system of natural pathways e.g. for plants and animals, which if safeguarded, will ensure not only their existence, but also their future survival.	Land in Network can only withstand minimal loss of natural area through disturbance and developments
Highest Priority	Process Area	Area where selected natural processes function e.g. river courses, including their streams and riverbanks, interfaces between solid thicket and other vegetation types and sand corridors	Process area can NOT withstand loss of natural area through disturbance and developments
	Municipal reserve, nature reserve, national parks	Protected areas managed for nature conservation by local authorities, province or SA National Parks	No loss of natural areas and no further impacts allowed
Dependant on degree on existing impacts	Impacted Area	Areas severely disturbed or destroyed by human activities, including cultivation, urban development and rural settlements, mines and quarries, forestry plantations and severe overgrazing in solid thicket.	Ability for this land to endure further disturbance of loss of natural area will depend on the land's classification before impacts, and the position, type and severity of the impacts

4.1.8. Vegetation of the study area

A brief preliminary site visit determined several different apparent vegetation types. These are shown in Plate 4.4. Thicket occurs on steep slopes and down to valley bottoms, Grassland occurs on top of ridges where overgrazing is apparent by the overpopulation of *Bobartiaorientalis* and *Pteroniaincana*. In much degraded thicket, grassland occurs between overgrazed thicket clumps. In some areas on slopes tending to the tops of ridges, fynbos occurs. This fynbos supports a wide variety of species of special concern and it is expected that several species of the Protea and iris families will be recorded from this area.

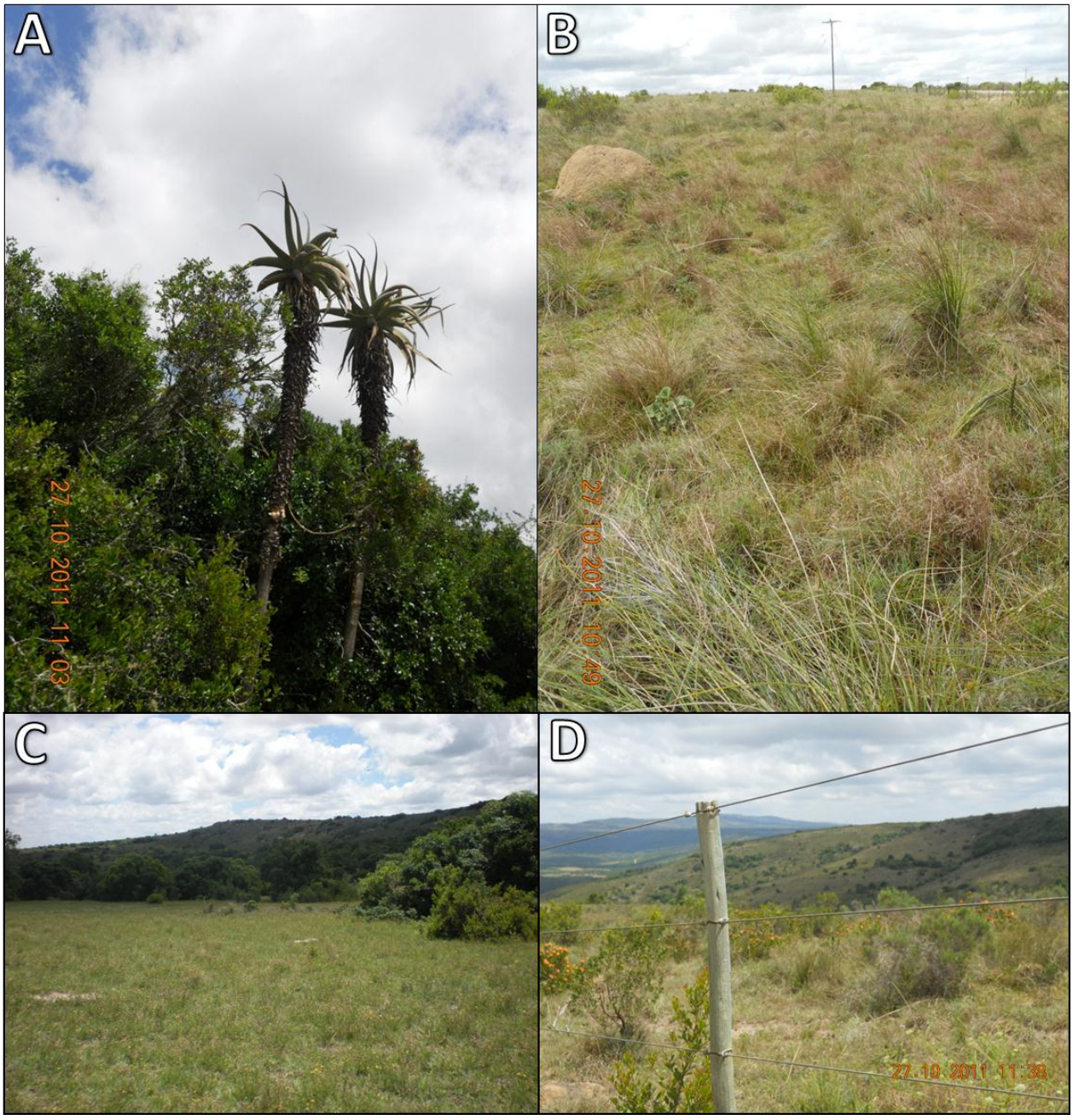


Plate 4.4: Vegetation types from the study area: A: thicket, B: grassland with evidence of overgrazing, C: degraded thicket and D: grassy fynbos.

4.1.6.1. Fauna

Habitats

Lack of pristine terrestrial habitat in the Grahamstown area, particularly due to loss of natural vegetation caused by infestation by alien invasive species as well as urban development, has impacted on terrestrial fauna. Despite this, a few large mammals occur in the region, along with small and medium sized animals. Reptile and amphibians occurring in the area include many species of frogs, tortoises and terrapins, lizards and snakes. Important mammals occurring in the study area include five IUCN Red Data listed species.

Vertebrates

Amphibians and Reptiles

Over one hundred species of reptiles and amphibians occur on the Eastern and Southern Cape Coastal Belt (Branch, 1998). Most are generalists, and represent the transition from temperate to tropical fauna, some montane forms occur in the CapeFoldMountains (Branch 1998).

Amphibians are an important and often neglected component of terrestrial vertebrate faunas. They are well represented in sub-Saharan Africa, from which approximately 600 species have been recorded (Frost 1985). Currently amphibians are of increasing scientific concern as global reports of declining amphibian populations continue to appear. Although there is no consensus on a single cause for this phenomenon, there is general agreement that the declines in many areas, even in pristine protected parks, are significant and do not represent simple cyclic events. Frogs have been aptly called bioindicator species, whose abundance and diversity is a reflection of the general health and well-being of aquatic ecosystems. They are important components of wetland systems, particularly ephemeral systems from which fish are either excluded or of minor importance. In these habitats, they are dominant predators of invertebrates, many of which may impact significantly on humans as, for instance, vectors of disease.

A relatively rich amphibian fauna occurs in the Eastern and Southern Cape coastal region, where 27 species are found, only three of which are endemic (Branch 1998). A list of amphibian species possibly found in the proposed project area is provided in Table 4-2.

Table 4-2: Common species of frogs to be found in the proposed project site
Source: Branch 1998

Species	Common name	Notes
Pyxicephalusadspersus	Giant Bullfrog	Southern most limit is Port Elizabeth.
Bufopardalis	Leopard toad	Occur in gardens
Buforangeri	Raucous toad	
Hyperoliusmarmoratus	Painted reed frog	Occurs in wetter regions
Xenopuslaevis	Plantanna	Common, aquatic
*Strongylopus*sp.	Stream frogs	Common along river courses.
Rana sp.	River frogs	
*Cacosternum*sp.	Cacos	Common but rarely seen.
*Phrynobatrachus*sp.	Puddle frogs	
Kassinasenegalensis	Kassinas	
Semnodactyluswealei		

The Eastern Cape is home to 133 reptile species including 21 snakes, 27 lizards and eight chelonians (tortoises and turtles) (Branch 1998). Five species of land tortoises occur in the Eastern Cape, three of which occur within the coastal belt. The Eastern Cape has the richest diversity of land tortoises in the world. These three coastal belt species include the leopard tortoise (*Geochelonepardalis*), the angulate tortoise (*Chersinaangulata*) and the parrot-beaked tortoise (*Homopusareolatus*). All three of these tortoise species are listed on the CITES Appendix II list. The cape terrapin (*Pelomedusasubrufa*) is also found in the region (Branch 1998).

There are many lizard species that occur in the region, as shown in Table: 4-3.

Table 4-3: Lizard species occurring in Grahamstown and surrounding areas
Source: Branch 1998.

Species	Common name	Notes
Phyllodactyllusprophyreus	Marbled leaf-toed gecko	Translocated to Grahamstown from Cape Town and surrounds.
Hemidactylusmabouia	Tropical house gecko	Considered invasive in the Eastern Cape
Cordyluscordylus	Cape girdled lizard	CITES Appendix II listed
Acontiasmeleagris	Cape legless skink	
Acontiaspercivalitasmani	Tasman's legless skink	
Bradypodion ventral	Southern dwarf chameleon	CITES Appendix II listed
Varanusniloticus	Water monitor lizard	
Varanusalbigularis	Rock monitor lizard	

Over 30 species of snakes occur in the coastal region, of these, only six species are dangerous (Branch 1998). A list of snakes occurring in the region is provided in Table 4-4.

Table 4-4: Snake species that occur in the proposed project site.

Species	Common name	Notes
Lycophidioncapense	Wolf snake	
Psammophis crucifer	Cross-barred sand snake	
Lamprophisfuliginosus	Brown house snake	
Lamprophisinornatus	Olive house snake	
Pseudaspiscana	Large mole snake	
Philothamnusnatalensis	Water snake	
Philothamnushoplogaster	Water snake	
Lycodonomorphusrufulus	Olive water snake	
Crotaphopeltishotamboeia	Red-lipped snake	
Duberrialutrix	Slug eater	
Psammophisnotostictus	Karoo whip snake	
Psammophylaxrhombeatus	Rhombic skaapsteker	
Bitisarietans	Puff adder	Poisonous
Bitisatropus	Berg adder	Poisonous
Caususrhombeatus	Night adder	
Najanivea	Cape cobra	Poisonous
Homoroselapslacteus	Harlequin snake	
Dispholidustypus	Boomslang	Poisonous
Bitisalbanica	Albany dwarf adder	
Lamprophisfuscus	Yellow-bellied house snake	Rare (Red Data List)

Birds

Several birds of conservation importance occur in the study area which includes: 11 Vulnerable, and 9 Near Threatened species (IUCN 2008), 15 CITES Appendix II, and one CITES Appendix I bird species (CES 2009). Four Species of Special Concern (SSC) species, all of which are rated as "Vulnerable" may occur in the study area, these include: Denham's Bustard, Martial Eagle, Black Harrier, and Blue Crane (CES 2009). Birds will be assessed in a separate Avifauna study in the EIA phase.

Table 4-5: List of bird SSC which may utilise the area of the proposed project.
Source: Roberts' Multimedia Birds of Southern Africa Version 3 © 1997-2004

English name	Scientific name	Status	IUCN RDS	CITES	SABAP %
KnysnaTuraco	*Tauracocorythaix*	E-C		II	30
African Crowned Eagle	*Stephanoaetuscoronatus*	R-U	NT	II	21
Secretarybird	*Sagittarius serpentarius*	R-U	NT	II	17
Knysna Woodpecker	*Campetheranotata*	E-U	NT		14
Denham's Bustard	*Neotisdenhami*	R-U	Vu		12
Martial Eagle	*Polemaetusbellicosus*	R-U	Vu	II	11
Black Harrier	*Circus maurus*	E-U	Vu	II	11
Blue Crane	*Anthropoidesparadisea*	E-U	Vu	II	11
Lanner Falcon	*Falco biarmicus*	R-C	NT	II	7
Black Stork	*Ciconianigra*	R-U/R	NT	II	5
Half-collared Kingfisher	*Alcedosemitorquata*	R-U	NT		5
Black-winged Lapwing	*Vanellusmelanopterus*	R/BM-LC	NT		2
Spotted Eagle-Owl	*Bubo africanus*	R-C		II	2
Greater Painted Snipe	*Rostratulabenghalensis*	R-U	NT		1
African Marsh-Harrier	*Circus ranivorus*	R-C	Vu	II	1
African Finfoot	*Podicasenegalensis*	R-U	Vu		1
Barn Owl	*Tyto alba*	R-C		II	1
Peregrine Falcon	*Falco peregrinus*	R/NBM-R	NT	I	
Cape Eagle-Owl	*Bubo capensis*	R-U		II	
Cape Vulture	*Gyps coprotheres*	E-LC	Vu	II	
Lesser Kestrel	*Falco naumanni*	NBM-VC	Vu	II	
Striped Flufftail	*Sarothruraaffinis*	R-U	Vu		
Kori Bustard	*Ardeotiskori*	R-R	Vu		
Southern Ground-Hornbill	*Bucorvusleadbeateri*	R-LC	Vu	II	

Mammals

Large game makes up less than 15% of the mammal species in South Africa and a much smaller percentage in numbers and biomass. In developed and farming areas this percentage is greatly reduced, with the vast majority of mammals present being small or medium-sized. Of the 62 mammal species known or expected to occur in the region, none are now considered endemic to the coastal region. Although historical records show that many large animals such as various antelope, elephants, hippopotamuses and lions did occur in the region, they no longer do (Perrin 1998). The conservation status of South African mammals has recently been re-assessed. The conservation status of some has been downgraded, with the African wild cat, Aardvark, Blue duiker, and Honey badger are no longer considered threatened. Table 4-6 lists mammal species whose distribution includes the project area and are considered Species of Special Concern (SSC).

Table 4-6: Mammal Species of Special Concern (SCC) with distributions that include the proposed project site.

Species	Common name	IUCN Status
Chlorotalpaduthieae	Duthie's golden mole	Vulnerable
Eidolon helvum	Straw-coloured fruit bat	Near Threatened
Miniopterusschreibersi	Schreiber's long-fingered bat	Near Threatened
Felisnigripes	Black-footed cat	Vulnerable
Equus zebra	Mountain zebra	Vulnerable

Animal species of special concern

The following reptile species which are relevant to the proposed project site are of conservation concern:

- Endemic and Endangered
  - Albany dwarf adder (*Bitisalbanica)*
- IUCN Red Data Species
  - Southern dwarf chameleon (*Bradypodionventrale*)
  - Cape girdled lizard (*Cordyluscordylus)*
  - Leopard or Mountain Tortoise (*Geochelonepardalis*),
  - Angulate Tortoise (*Chersinaangulata*), and
  - Parrot-beaked tortoise (*Homopusareolatus*)
  - Yellow-bellied house snake *(Lamprophisfuscus)*

The following mammals which may occur in the proposed project area are of conservation concern (IUCN):

- Black-footed Cat (*Felisnigripes*)
- Duthie's golden mole (*Chlorotalpaduthieae*)
- Straw-coloured fruit bat (*Eidolon helvum*)
- Schreiber's long-fingered bat (*Miniopterusschreibersi*)
- Mountain zebra (*Equus zebra*)

4.1.5.5. Terrestrial Invertebrates

Of nearly 650 butterfly species recorded within the borders of South Africa 102 are considered of conservation concern and are listed in the South African Red Data Book (RDB) for Butterflies. Two have become extinct, whilst three rare butterflies are known from a number of scattered localities in the Coega region.

According to the most recent IUCN red data list there are no members of the Athropoda (insects arachnids and crustaceans) Phylum in the area that can be defined as SSC.

4.2. LAND USE AND THE EASTERN CAPE BIODIVERSITY CONSERVATION PLAN (ECBCP)

The Eastern Cape Biodiversity Conservation Plan (ECBCP) is responsible for mapping areas that are priorities for conservation in the province, as well as assigning land use categories to the existing land depending on the state that it is in (Berliner *et al*, 2007).

Critical Biodiversity Areas (CBA) are defined by Berliner *et al* (2007) as:"CBAs are terrestrial and aquatic features in the landscape that are critical for conserving biodiversity and maintaining ecosystem functioning". Biodiversity Land Management Classes (BLMCs) are also used in the plan: "Each BLMC sets out the desired ecological state that an area should be kept in to ensure biodiversity persistence. For example, BLMC 1 refers to areas which are critical for biodiversity persistence and ecosystem functioning, and which should be kept in as natural a condition as

possible". Table 4-7 shows how the BLMCs relate to the CBAs. Figure 4-5 indicates the CBAs occuring in and around the proposed project boundary.

Table 4-7: Terrestrial Critical biodiversity Areas and Biodiversity Land Management Classes as described by the Eastern Cape Biodiversity Conservation Plan.

CBA map category	Code	BLMC	
Terrestrial CBAs and BLMCs:			
Protected areas	PA1	BLMC 1	Natural landscapes
	PA2		
Terrestrial CBA 1 (not degraded)	T1		
Terrestrial CBA 1 (degraded)	T1	BLMC 2	Near-natural landscapes
Terrestrial CBA 2	T2		
	C1		
	C2		
Other natural areas	ONA T3	BLMC 3	Functional landscapes
	ONA		
Transformed areas	TF	BLMC 4	Transformed landscapes

Table 4-8: Terrestrial BLMCs and Land Use Objectives
Source: Berliner et al. 2007

BLMC	Recommended land use objective
BLMC 1: Natural landscapes	Maintain biodiversity in as natural state as possible. Manage for no biodiversity loss.
BLMC 2: Near natural landscapes	Maintain biodiversity in near natural state with minimal loss of ecosystem integrity. No transformation of natural habitat should be permitted.
BLMC 3: Functional landscapes	Manage for sustainable development, keeping natural habitat intact in wetlands (including wwtalnd buffers) and riparian zones. Environmental authorisations should support ecosystem integrity.
BLMC 4: Transformed landscapes	Manage for sustainable development.

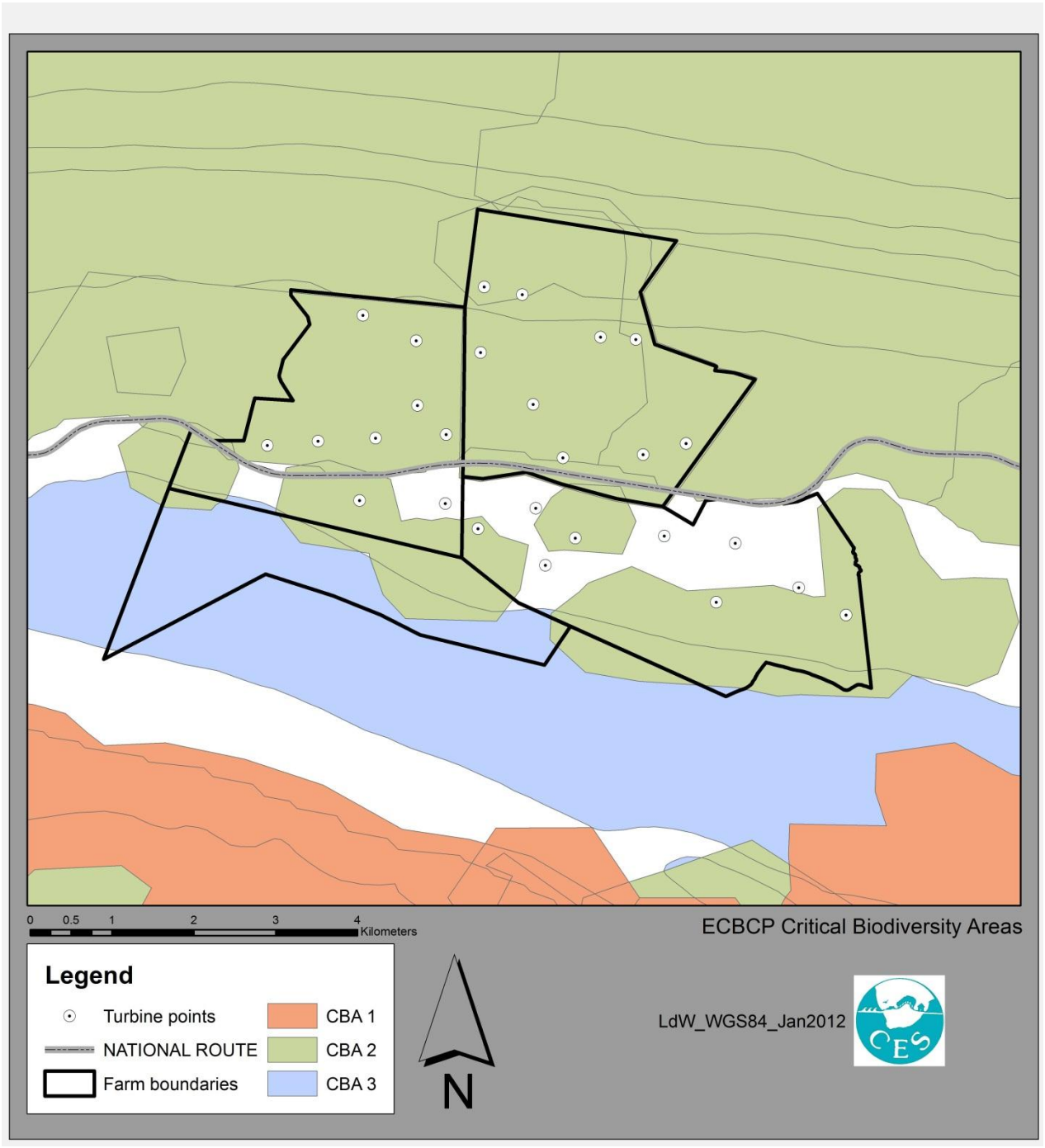


Figure 4-5: CBAs occurring in and around the proposed project area.

Ten principles of land use planning for biodiversity persistence

1) Avoid land use that results in vegetation loss in critical biodiversity areas.
2) Maintain large intact natural patches – try to minimise habitat fragmentation in critical biodiversity areas.
3) Maintain landscape connections (ecological corridors) that connect critical biodiversity areas.
4) Maintain ecological processes at all scales, and avoid or compensate for any effects of land uses on ecological processes.
5) Plan for long-term change and unexpected events, in particular those predicted for global climate change.
6) Plan for cumulative impacts and knock-on effects.
7) Minimise the introduction and spread of non-native species.

8) Minimize land use types that reduce ecological resilience (ability to adapt to change), particularly at the level of water catchments.
9) Implement land use and land management practices that are compatible with the natural potential of the area.
10) Balance opportunity for human and economic development with the requirements for biodiversity persistence.

5. PUBLIC PARTICIPATION PROCESS

According to regulation 28(1) of the EIA regulations (2010), *A scoping report must include –*

(h) details of the public participation process conducted in terms of regulation 27(a) including –

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

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

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

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

In line with the above-mentioned legislative requirement, this Chapter of the report provides the details of the Public Participation Process followed during the Scoping Phase of the EIA for the proposed Plan8Grahamstown wind energy project.

The Scoping phase of the EIA provides for the involvement of Interested and Affected Parties (I&APs), in forums that allow them to voice their opinions and concerns, at an early stage of the proposed project. Such engagement is critical in the EIA, as it contributes to a better understanding of the proposed project among I&APs, and raises important issues that need to be assessed in the EIA process.

There are four key steps within the overall public participation process. These include -

- Notifying I&APs of the EIA;
- Holding public meetings;
- Making provision for I&APs to review and comment on all reports before they are finalised and submitted to the competent authority; and
- Making a record of responses to comments and concerns available to I&APs.

Prior to the preparation of this Scoping Report the above steps have comprised the activities described in sections 5.1 – 5.3 below.

5.1. NOTIFYING INTERESTED AND AFFECTED PARTIES OF THE EIA

5.1.1. Background information document

A four-page Background Information Document (BID) that provided basic information on the proposed project, the EIA process and contact details for registration as an I&AP was prepared. The BID was sent to all persons responding to the inception advertising and organisations identified as potential I&APs identified in previous EIA processes conducted in the area by CES. The BID is reproduced in Appendix B-1.

5.1.2. Written notices

Initial notification of the Plan 8 Grahamstown Wind Energy Project

Written notices were sent to the owners and/or occupiers of land immediately surrounding and within 100m of the proposed Plan8 Grahamstown Wind Energy Project site. Copies of these letters, together with the details of the landowners in question to whom the letters were sent, are included in Appendix B-2.

Letters were also sent to:

- Eskom Holdings
- Wildlife and Environment Society of Southern Africa (WESSA)
- Department of Agriculture, Forestry & Fisheries
- Department of Water Affairs
- Eastern Cape Department of Economic Development and Environmental Affairs

- Department of Energy
- Department of Environmental Affairs
- South African Civil Aviation Authority
- Makana Local Municipality
- South African Heritage Resources Agency
- Vodacom SA Eastern region

Copies of these letters are included in Appendix B-3.

Release of the DSR for public review

Written notices (and e-mails) were sent to the owners and/or occupants of land immediately surrounding and within 100m of the proposed Middleton wind energy project site. Copies of these letters are included in Appendices B-2 and 3.

Letters were also sent to:

- Eskom Holdings
- Wildlife and Environment Society of Southern Africa (WESSA)
- Department of Agriculture, Forestry & Fisheries
- Department of Water Affairs
- Eastern Cape Department of Economic Deveopment and Environmental Affairs
- Department of Energy
- Department of Environmental Affairs
- South African Civil Aviation Authority
- Makana Local Municipality
- South African Heritage Resources Agency
- Vodacom SA Eastern region

5.1.3. Advertisements

An inception advertisement was placed in one Provincial Newspaper the Eastern Province (EP) Herald on 19 eptember2011, and in one local Newspaper (Grocott's Mail on the 16 September 2011, in order to:

- Advise readers of the intention to undertake an EIA for the proposed Plan8 Grahamstown Wind Energy Project, and;
- Inform them of the dates, times and venues for public meetings (see section 5.2 below), and;
- Invite them to register as I&APs.

A period of four weeks (19 September – 17November 2011) was allowed for registration of I&APs after the advertisement appeared. A copy of the advertisement is included in Appendix B-4.

A second advertisement was placed in the EP Herald and the Grocott's Mail on 2nd November 2011and 4th November 2011, respectively in order to:-

- Advise I&APs of the release of the Draft Scoping Report for the proposed Plan 8 Grahamstown Wind Energy Project; and
- Inform them of where they can access the Draft Scoping Report for review (see section 5.3 below).

A period of 40 days (3 November 2011 – 13 December 2011) was allowed for public review of the Draft Scoping Report by I&APs after the advertisement appeared. A copy of the advertisement(s) is included in Appendix B-4.

5.1.4. Site notices

The NEMA regulations require the erection of "*a notice board at a place conspicuous to the public at the boundary or on the fence of the site where the activity to which the application relates is or is to be undertaken; and any alternative site mentioned in the application*".

Therefore in accordance with this requirement, an 800 X 600mm single sided Corex notice board was placed on the boundary of the proposed project site at or near the entrances to the farms Gilead, Tower Hill And Peynes (also refer to Plates B5-1 to B5-3 in Appendix B).Farms

The text of the site notice and photographs of the fixed notices are provided in Appendices B-5.

5.2. PUBLIC MEETINGS

A public meeting was held on the**14th November 2011 at 18h00 at the Graeme Hotel conference room, Grahamstown.** The findings of the DSR report were presented to attendees, followed by a general discussion. The register of attendees of the public meeting is shown in Appendix B-6, along with a picture of the meeting and minutes of the meeting (B-7).

5.3. PUBLIC REVIEW OF THE DRAFT SCOPING REPORT

In line with the second advertisements mentioned in section 5.1.3 above, copies of which are provided in Appendix B-4,a hard copy of the Draft Scoping Report was placed the Grahamstown Public Library.

An electronic copy of the Draft Scoping report was also displayed on the EAP's website - www.cesnet.co.za - via the Public Documents link.

All comments received (see Section 5.4 below) following the review period were considered and necessary changes made to the Draft Scoping Report before submitting this – the Final Scoping Report - to the competent authority.

5.4. REGISTRATION OF INTERESTED AND AFFECTED PARTIES AND COMMENTS DATABASE

A register of I&APs to date has been compiled, containing all available contact details of those who responded to the advertisement(s) and/or registered as I&APs, or attended the public meeting (Appendix B-10).

A record of all comments received, together with a note of the responses given, was also maintained (Appendix B-8).

The issues and concerns raised during the Scoping Phase during the preparation of this Final Scoping Report are discussed in Chapter 6 that follows.

6. ISSUES IDENTIFIED DURING SCOPING

According to regulation 28 (1) of the EIA regulations (2010), *A scoping report must include –*
1(g) a description of the environmental issues and potential impacts, including cumulative impacts that have been identified

The main issues and concerns raised to date included but are not limited to the following:-

Issue	Question/statement
Telecommunication Interference: Vodacom Mast	The proposed development takes place and surrounds a Vodacom Telecommunication mast. Will the turbines have any implications and interference on the electronic broadcasting from this mast?
Socio-economic: Ecotourism	The construction of a substantial Windfarm on the high lying ridge above Coombes Valley will impact negatively on all eco tourism and hunting concerns in the vicinity. There are potential negative impacts on surrounding game reserves that rely on pristine environment for a satisfactory experience for their clients.
Visual Intrusion	A development of a Windfarm on this particular site, no matter how attractive it may be to the Developer and the Landowners will adversely impact upon other legitimate land-users and in particular Amaraka Investments No. 6 (Pty) Limited in that the visual pollution will be considerable and will in all probability make it more difficult if not impossible to sell eco tourism and safari operations on its property and will most certainly reduce the value of its considerable investment in land.
Avifauna and bats	There are potential negative impacts on large bird populations via loss of useable habitat.

Mr Murray Crous, owner of Settlers Safaris hunting outfit and Bushmans Gorge Lodge situated on Honeykop Farm, a neighbouring farm to the proposed Plan 8 Windfarm; and Mr Dave De La Harpe, Director of Amaraka Investments No. 6 (Pty) Limited, raised many concerns, including but not limited to the following: project description, motivation, benefits, public participation process, ecological functioning of the area, socio-economic benefits. Please refer to Appendices B-8 and 9 for a full record of all issues and concerns, and responses to them. Included in this appendix are the copies of the correspondence received from I&APs who raised concerns.

In addition, issues raised during the public meeting are provided in Appendix B-7 as meeting minutes.

7. ALTERNATIVES

According to regulation 28 (1)and (3) of the EIA regulations (2010), *A scoping report must include –*

(j) a description of identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity

(3) The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated insub-regulation (1)(c), exist.

One of the objectives of an EIA is to investigate alternatives to the proposed project. There are two types of alternatives - Fundamental Alternatives and Incremental Alternatives.

7.1. FUNDAMENTAL ALTERNATIVES

Fundamental alternatives are developments that are totally different from the proposed project and usually involve a different type of development on the proposed site, or a different location for the proposed development.

7.1.1. A different type of development

Since the core business area of the project proponent is wind energy facilities, the fundamental alternative of a development other than the proposed facility is not viable in this case, and will not be considered further in the EIA.

7.1.2. A different location

By virtue of the fact that Plan8 (Pty) Ltd is currently undertaking numerous environmental impact assessments across South Africa, they are undertaking assessments of different locations for proposed wind energy facilities. For each site, desk based studies of the following aspects (see below) are concluded to understand if a site is suitable for producing energy using wind turbines. The elements below hold equal weight. It is required that assessment yields satisfactory results in all elements before respective projects are developed. Note that pre RFP August 2011, many of the statutory requirements and documented best practice parameters were in a developmental state due to the fact that wind energy is a new technology in the South African context. Where no guidelines exist, German requirements have been used due to the advanced state of the wind industry in that country which was driven by a feed-in-tariff structure. A diligent site pre-selection programme assists and is vital in ensuring that all facets can proceed smoothly from a project development point of view, hopefully resulting in the successful completion of a utility scale electrical generation facility.

Aspects assessed in selecting favourable wind energy facilty locations:

- Wind speed
- Annual average energy production
- Logistics, access roads, ports, etc
- Environmental sensitivity
- Botanical
- Avifaunal (and Bats)
- Rivers and dams
- Proximity to residential areas – visual
- Proximity to residential areas – sound
- Proximity to residential areas – Flicker
- Proximity to transmission and distribution grid
- Proximity to railways, roads, coast line and mines
- Civil aviation requirements

- Heritage of the area
- Radio and cellular communications networks
- Overhead telephone communications networks

The main determinants in selecting the proposed Grahamstown location were:-

- Proximity to grid connection -
    - The site has a resident 132kVA high voltage line that traverse the property. This means that connection to the Eskom grid can occur on site. Whilst there are several good, windy ridges around Grahamstown, not all have the needed HV lines running over the property in question.
- Site accessibility –
    - The site is divided by the N2 highway. This aids in project logists, as it allows direct access during the construction of the farm, and for the duration of the operational life of the plant.
- Wind resource –
    - The entire Grahamstown region has good wind resources. Plan 8 mesoscale modeling and access to local weather station data indicates that a wind resource of over 8MPS is prevelant at this chosen site.
- Topography
    - Desktop topographic modeling of the area shows a potentially useable ridge that forms the core of the site. Whilst there is indeed much wind in the general Grahamstown area, the terrain tends to be fairly complex. Complex terrain of course creates turbulence and interferes with the wind, which in turn affects productivity and can create severe problems when it comes to turbine wear and tear. The ridge of the proposed project site stands proud of the surrounding topography, hence reducing turbulence to a minimum. The surface area of the ridge is also sufficient for installing a relatively large quantity of generation capacity.
- Environmental Sensitivity –
    - Many areas near Grahamstown are extraordinarily environmentally sensitive. This site was chosen by Plan 8 as it is zoned agricultural with an already operational mine on one of the properties. This site was therefore deemed to be more suitable than other area that might have been seen as more senstive.
- Visual Impact –
    - This site was selected by Plan 8 so as to minimize visual impact on nearby Grahamstown.

Up until January 2011, Plan 8 had investigated a total of 22 wind farm sites, of which four are currently under Environmental Assessment and one is registered with DEA for development. The discarded project sites include:

- Aggeneys
- Malmesbury
- Alexander bay
- Athlone power station
- Blinkwaterbaai
- Cookhouse
- Elliot
- Richards Bay
- Hopefield
- Konsoonsieskop
- Kromsberg pass
- Manyano
- Perdeberg
- Port Nolloth
- Rockview

- Sir Lowrys pass
- Syfergat
- Laingsburg

The projects currently under Environmental Assessment include:

- Copperton
- Loperberg
- Waaihoek
- Koekenaap
- Grahamstown

Preliminary investigations have identified that the proposed project study area meets the above mentioned criteria. The connectivity to the grid is a critical factor to the overall feasibility of the project.

7.1.3. No development

The EIR will examine the impact of doing nothing i.e. not developing a wind energy facility (i.e. the "No Go" option).

7.2. INCREMENTAL ALTERNATIVES

Incremental alternatives are modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. There are several incremental alternatives that can be considered, including:

- The design or layout of the activity;
- The technology to be used in the activity, and;
- The operational aspects of the activity.

These options will be examined in detail in the EIA Phase.

8. PLAN OF STUDY FOR EIA

According to regulation 28 (1) of the EIA regulations (2010), *A scoping report must include –*

(n) a plan of study for environmental impact assessment which sets out the proposed approach to the environmental impact assessment of the application, which must include –

(i) a description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;

(ii) an indication of the stages at which the competent authority will be consulted;

(iii) a description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity; and

(iv) particulars of the public participation process that will be conducted during the environmental impact assessment process;

(o) any specific information required by the competent authority; and

(p) any other matters required in terms of sections 24(4}(a) and (b) of the Act.

In line with the above-mentioned legislative requirement, this Chapter sets out the Plan of Study (PoS) for the EIA phase of the assessment. Consultation with DEA will be ongoing throughout this EIA. However, it is anticipated that DEA will provide relevant comment with respect to the adequacy of this Plan of Study for the EIA, as it informs the content of the EIR and sufficiency thereof.

8.1. EIA PHASE

The EIA phase has four key elements, namely:-

- **Specialist Studies:** Specialist studies identified as being necessary during the Scoping Phase, plus any additional studies that may be required by the authorities, will be undertaken during the initial phase of the EIA. Appropriately qualified and experienced specialists will be appointed to undertake the various assessments. Specialists will gather baseline information relevant to the study being undertaken and will assess impacts associated with the development. Specialists will also make recommendations to mitigate negative impacts and enhance benefits. The resulting information will be synthesised into the Environmental Impact Report (EIR), whilst the full specialist reports will be attached to the EIR as a Specialist Volume.

- **Environmental Impact Report (EIR):** The main purpose of this report is to gather and synthesise environmental information and evaluate the overall environmental impacts associated with the development, to consider mitigation measures and alternative options, and make recommendations in choosing the best development alternative. The EIR also identifies mitigation measures and management recommendations to minimise negative impacts and enhance benefits. The EIR and associated specialist reports are made available for public and authority review and comment. The availability of the report will be advertised in one provincial and one local newspaper and the report will also be made available for public scrutiny in easily accessible locations.

- **Comments Report:** The comments report provides a detailed record of comments, issues and concerns raised by I&APs and the authorities during the review period, and also provides relevant responses to these comments.

- **Environmental Management Programme (EMPr):** The EMPr provides guidelines to the project proponent, technical team and contractor on how best to implement the mitigation measures and management recommendations outlined in the EIR during the construction and operational phase.

In addition to the above, the **Public Participation Process** commenced during the Scoping Phase is continued, during which I&APs are afforded further opportunities to raise their issues, concerns and comments regarding the proposed project. It is possible that some of the project details may

have changed in response to the preliminary findings of the ESR, and as a result of design changes made by the project proponent. I&APs and key stakeholders are given the opportunity to review the Draft EIR before it is submitted to the authorities for consideration. Comments on the Draft EIR received from I&APs will be included and addressed in the submitted EIR.

8.1.1. Specialist studies

The following Specialist Studies are proposed for the EIA Phase of the assessment:

- Visual Impact Assessment
- Noise Impact Assessment
- Ecological Impact Assessment (incorporating flora and fauna)
- Avifauna Impact Assessment
- Archaeological and Palaeontological Impact Assessment
- Bat (*Chiroptera*) Impact Assessment
- Agricultural Impact Assessment

The proposed Terms of Reference for the above studies, which outline the information required from the specialists, are provided in Sections 8.1.1.1 – 8.1.1.5 below and the methodology for assessing the significance of impacts and alternatives is described in Section 8.1.2 that follows. Specialists will also be required to address issues raised by I&APs in their reports.

8.1.1.1. Visual and Landscape Impact Assessment

The size of the structures is dictated by the design, and there is little that can be done to reduce their dimensions. Therefore, the Visual and Landscape Impact Assessment the details of which are provided below will focus on mitigation measures. The specific Terms of Reference for the Visual and Landscape Impact Assessment will therefore include:-

1. Conduct a site reconnaissance visit and photographic survey of the proposed project site.
2. Conduct a desk top mapping exercise to establish visual sensitivity:-
    - Describe and rate the scenic character and sense of place of the area and site.
    - Establish extent of visibility by mapping the view-sheds and zones of visual influence
    - Establish visual exposure to viewpoints
    - Establish the inherent visual sensitivity of the site by mapping slope grades, landforms, vegetation, special features and land use and overlaying all relevant above map layers to assimilate a visual sensitivity map.
3. Review relevant legislation, policies, guidelines and standards.
4. Preparation of a draft Visual Baseline/Sensitivity report
    - Assessing visual sensitivity criteria such as extent of visibility, the sites inherent sensitivity, visual sensitivity of the receptor's, visual absorption capacity of the area and visual intrusion on the character of the area
    - Prepare photomontages of the proposed development
    - Conduct shadow flickering modelling
    - Assess the proposed project against the visual impact criteria (visibility, visual exposure, sensitivity of site and receptor, visual absorption capacity and visual intrusion) for the site.
    - Assess impacts based on a synthesis of criteria for each site (criteria = nature of impact, extent, duration, intensity, probability and significance)
    - Establish mitigation measures/recommendations with regards to minimizing visual risk areas

8.1.1.3. Noise Impact Assessment

The objectives of the noise impact assessment will be to:

1. Identify all potential noise sensitive sites that could be impacted upon by activities relating to the construction and operation of the proposed wind energy facility.

2. Identify all noise sources relating to the activities of the facility during the construction and operation phases that could potentially result in a noise impact at the identified noise sensitive sites.
3. Determine the sound emission, operating cycle and nature of the sound emission from each of the identified noise sources.
4. Calculate the combined sound power level due to the sound emissions of the individual noise sources.
5. Calculate the expected rating level of sound at the identified noise sensitive sites from the combined sound power level emanating from identified noise sources.
6. Display the rating level of sound emitted by the noise sources in the form of noise contours superimposed on the map of the study area.
7. Determine the existing ambient levels of noise at identified noise sensitive sites by conducting representative sound measurements.
8. Determine the acceptable rating level for noise at the identified noise sensitive sites.
9. Calculate the noise impact at identified noise sensitive sites.
10. Assess the noise impact at identified noise sensitive sites in terms of:-
    - SANS 101 SANS 10103 for "The measurement and rating of environmental noise with respect to land use, health, annoyance and to speech communication".
    - Noise Control Regulations.
    - World Health Organsation - Guidelines for Community Noise.
    - World Bank - Environmental Guidelines.
11. Investigate alternative noise mitigation procedures, if required, in collaboration with the design engineers of the facility and estimate the impact of noise upon implementation of such procedures.
12. Prepare and submit a full environmental noise impact report containing detailed procedures and findings of the investigation including recommended noise mitigation procedures, if relevant.

8.1.1.2. Ecological Impact Assessment

The assessment will follow on from the initial study, which included a site visit (see Chapter 4 above) conducted during the scoping phase, and will address any key issues raised by interested and affected parties. A considerable body of information on the flora and fauna of the Makana area and its environs has been assembled in the reports on previous studies of the area in general. Accordingly the study will comprise a desktop study of all available relevant literature.

However, a detailed survey of the site will be undertaken to determine the possibility of there being listed threatened or protected ecosystems and species on the proposed project site. If any of these are found, the Environmental Management Plan will include recommended measures to remove or otherwise protect plant species found on the site that are afforded protection under the National Environmental Management: Biodiversity Act during construction.

This specialist study will therefore include but will not be limited to –

1. A detailed description of the ecological (fauna and flora) environment within and immediately surrounding the footprint of the proposed development and will consider terrestrial fauna and flora. Fauna include mammals, reptiles, amphibians, and insects but not avifauna as these will be the subject of a separate specialist study (refer to Section 8.1.1.5 below). This aspect of the report will specifically include the identification of -
    - Areas of high biodiversity;
    - The presence of species of special concern, including sensitive, endemic and protected species;
    - Habitat associations and conservation status of the identified fauna and flora;
    - The presence of areas sensitive to invasion by alien species; and
    - The presence of conservation areas and sensitive habitats where disturbance should be avoided or minimised.
2. Review relevant legislation, policies, guidelines and standards.

3. An assessment of the potential direct and indirect impacts resulting from the proposed development (including the wind turbines, associated infrastructure e.g. access road), both on the footprint and the immediate surrounding area during construction and operation;
4. A detailed description of appropriate mitigation measures that can be adopted to reduce negative impacts for each phase of the project, where required; and
5. Checklists of faunal groups identified in the region to date, highlighting sensitive species and their possible areas of distribution.

8.1.1.6. Avifauna Assessment

An avifauna specialist study will be conducted. The assessment will include:

1. A desk-top review of existing literature to seek:
   - Previous means of predicting bird mortality (and other impacts) of wind turbines affecting birds in groups similar to those in the study area.
   - Accounts of mortality at wind turbines
   - Information on the status, in Makana Municipality, Eastern Cape, South Africa and globally, of bird groups most likely to be affected
2. A site visit to identify species of special concern and assess the likely impacts of the construction and operational phases on the avifauna of the site.
   - Surveys will be conducted on at least two days at sites at either end, and in the middle of the proposed turbine corridor and, as a control against the post construction situation, one-day surveys at two similar sites outside the turbine affected area. Survey sites will be selected to reflect variation in local habitat and terrain.
   - At each site, a camp will be established in the early afternoon. Two hours of observations will be undertaken before dusk and two during the first hours of darkness (when night-migrating birds are likely to be flying at lower altitude). Observations will begin again at first light and continue for 3-4 hours (depending on bird activity levels and especially the use of thermals by soaring birds).
   - During daylight in each survey hour - 2 x 15 minutes for visual scans of birds crossing the proposed turbine corridor (with appraisal of flight height above the ground) - 2 x 10 minutes circular point surveys
   - After dark in each hour scans by night vision binoculars - 2 x 10 minutes focused on bird activity
3. Conduct a review of international literature and experience relating to operational wind farms; including state of the art plants around the world
4. Contextualize the literature and experience and relate it to the Eastern Cape scenario and local avifauna;
5. Map sensitive areas in and around the proposed project site(s);
6. Describe the affected environment and determine the status quo in terms of avifauna;
7. Indicate how an avifaunal resource or community will be affected by the proposed project;
8. Discuss gaps in the baseline data with respect to avifauna and relevant habitats;
9. List and describe the expected impacts;
10. Assess and evaluate the anticipated impacts, and;
11. Make recommendations for relevant mitigation measures which will allow the reduction of negative impacts and the maximization of the benefits associated with any identified positive impacts.

Although the avifauna specialist will assess avian collision risk and provide detailed explanations and ratings of the likelihood of collisions of various species, *detailed avian collision modelling* i.e quantitatively assessing the collision risk potential (i.e. birds directly colliding with rotor blades and turbine towers) of the proposed wind farm cannot be undertaken. This is because the extent to which this can formally be modelled and quantified to arrive at predicted numbers of collisions, would depend largely on the primary data collection related to flight frequencies and species, but it is unlikely that even the best possible data collection between now and mid 2010 would provide much confidence in such a model, as it would require more representative data collection across a range of conditions/seasons etc. In addition, very often the worst bird collision 'events' at wind

farms around the world have been found to have occurred in extreme weather conditions, when flight behaviour etc is abnormal.

8.1.1.4. Archaeological and Palaeontological Impact Assessment

As part of the Environmental Impact Assessment (EIA) for the proposed facility, it is necessary to undertake a phase one archaeological and historical survey to fulfil SAHRA requirements in accordance with the requirements of the National Heritage Resources Act (Act No 25 of 1999) which requires that *"…any development or other activity which will change the character of a site exceeding 5 000m², or the rezoning or change of land use of a site exceeding 10 000 m², requires an archaeological impact assessment*".

A heritage and archaeological impact assessment will therefore be conducted, the primary objective of which is to determine whether there are any indications that the proposed site is of archaeological significance. This will be a phase 1 assessment and will be largely desk-top although a site visit will be required to enable the specialist the opportunity to look for significant artefacts on the surface of the site. It is not expected that a more detailed Phase 2 assessment will be required but this remains to be confirmed.

The terms of reference for the Phase 1 archaeological study will be to:

1. Determine the likelihood of heritage or archaeological remains of significance on the proposed site within the Makanaarea;
2. Identify and map (where applicable) the location of any significant heritage or archaeological remains;
3. Assess the sensitivity and significance of heritage and archaeological remains in the site; and
4. Identify mitigatory measures to protect and maintain any valuable heritage archaeological sites and remains that may exist within the proposed site.

A palaeontological impact assessment will therefore be conducted, the primary objective of which is to determine whether there are any indications that the proposed site is of palaeontological significance. This will be a phase 1 assessment and will be largely desk-top although a site visit will be required to enable the specialist the opportunity to look for significant artefacts/fossils on the surface of the site. It is not expected that a more detailed Phase 2 assessment will be required but this remains to be confirmed.

The terms of reference for the Phase 1 palaeontological study will be to:

- Provide a summary of the relevant legislation;
- Conduct a site inspection as required by national legislation
- Determine the likelihood of palaeontological remains of significance in the proposed site;
- Identify and map (where applicable) the location of any significant palaeontological remains;
- Assess the sensitivity and significance of palaeontological remains in the site;
- Assess the significance of direct and cumulative impacts of the proposed development and viable alternatives on palaeontological resources;
- Identify mitigatory measures to protect and maintain any valuable palaeontological sites and remains that may exist within the proposed site.
- Prepare and submit any permit applications to relative authorities

8.1.1.7. Bat (Chiroptera) ImpactAssessment

A bat (*Chiroptera*) faunal specialist study will be conducted. The assessment will include:

1. A desk-top review of existing literature.
2. A site visit to identify species of special concern and assess the likely impacts of the construction and operational phases on the *Chiroptera* of the site.

3. Conduct a review of international literature and experience relating to operational wind farms; including state of the art plants around the world
4. Map sensitive areas in and around the proposed project site(s);
5. Describe the affected environment and determine the status quo in terms of bat (*Chiroptera*) fauna;
6. Indicate how bat faunal resource or community will be affected by the proposed project;
7. Discuss gaps in the baseline data with respect to bat fauna and relevant habitats;
8. List and describe the expected impacts;
   a. Assess the significance of direct and cumulative impacts (including foraging impacts, roost impacts and migratory impacts) of the proposed development and viable alternatives with regard to bat fauna;
9. Assess and evaluate the anticipated impacts, and;
10. Make recommendations for relevant mitigation measures which will allow the reduction of negative impacts and the maximization of the benefits associated with any identified positive impacts.

8.1.2. Methodology for assessing the significance of impacts

Although specialists will be given relatively free rein on how they conduct their research and obtain information, they will be required to provide their reports to the EAP in a specific layout and structure, so that a uniform specialist report volume can be produced.

To ensure a direct comparison between various specialist studies, a standard rating scale has been defined and will be used to assess and quantify the identified impacts. This is necessary since impacts have a number of parameters that need to be assessed. Five factors need to be considered when assessing the significance of impacts, namely:

1. Relationship of the impact to **temporal** scales - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.

2. Relationship of the impact to **spatial** scales - the spatial scaledefines the physical extent of the impact.

3. The severityof the impact- the **severity/beneficial**scaleis used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected system (for ecological impacts) or a particular affected party.

   The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it. The word ‘mitigation’ means not just ‘compensation’, but also the ideas of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable.

4. The **likelihood** of the impact occurring - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

Each criterion is ranked with scores assigned as presented in Table 8-1 to determine the overall **significance** of an activity. The criterion is then considered in two categories, viz. effect of the activity and the likelihood of the impact. The total scores recorded for the effect and likelihood are then read off the matrix presented in Table 8-2, to determine the overall significance of the impact (Table 8-3). The overall significance is either negative or positive.

The ***environmental significance*** scale is an attempt to evaluatethe importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

Negative impacts that are ranked as being of "**VERY HIGH**" and "**HIGH**" significance will be investigated further to determine how the impact can be minimised or what alternative activities or mitigation measures can be implemented. These impacts may also assist decision makers i.e. lots of **HIGH** negative impacts may bring about a negative decision.

For impacts identified as having a negative impact of "**MODERATE**" significance, it is standard practice to investigate alternate activities and/or mitigation measures. The most effective and practical mitigations measures will then be proposed.

For impacts ranked as "**LOW**" significance, no investigations or alternatives will be considered. Possible management measures will be investigated to ensure that the impacts remain of low significance.

Table 8-1: Criterion used to rate the significance of an impact

EFFECT	**Temporal scale**			**Score**
	Short term	Less than 5 years		**1**
	Medium term	Between 5 and 20 years		**2**
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent.		**3**
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there		**4**
	Spatial Scale			
	Localised	At localised scale and a few hectares in extent		**1**
	Study area	The proposed site and its immediate environs		**2**
	Regional	District and Provincial level		**3**
	National	Country		**3**
	International	Internationally		**4**
	Severity		**Benefit**	
	Slight / Slightly Beneficial	Slight impacts on the affected system(s) or party (ies)	Slightly beneficial to the affected system(s) or party (ies)	**1**
	Moderate / Moderately Beneficial	Moderate impacts on the affected system(s) or party(ies)	An impact of real benefit to the affected system(s) or party (ies)	**2**
	Severe / Beneficial	Severe impacts on the affected system(s) or party (ies)	A substantial benefit to the affected system(s) or party (ies)	**4**
	Very Severe / Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party (ies)	**8**
LIKELIHOOD	**Likelihood**			
	Unlikely	The likelihood of these impacts occurring is slight		**1**
	May Occur	The likelihood of these impacts occurring is possible		**2**
	Probable	The likelihood of these impacts occurring is probable		**3**
	Definite	The likelihood is that this impact will definitely occur		**4**

Table 8-2: The matrix that will be used for the impacts and their likelihood of occurrence

Likelihood	Effect													
	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	4	5	6	7	8	9	10	11	12	13	14	15	16	17
2	5	6	7	8	9	10	11	12	13	14	15	16	17	18
3	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Table 8-3: The significance rating scale

Significance	Description	Score
Low	Ac acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in either positive or negative medium to short term effects on the social and/or natural environment.	4-7
Moderate	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in either a positive or negative medium to long-term effect on the social and/or natural environment.	8-11
High	A serious impact, if not mitigated, may prevent the implementation of the project (if it is a negative impact). These impacts would be considered by society as constituting a major and usually a long-term change to the (natural &/or social) environment and result in severe effects or beneficial effects.	12-15
Very High	A very serious impact which, if negative, may be sufficient by itself to prevent implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects, or very beneficial effects.	16-20

8.1.3. Environmental Impact Report

The results of the Specialist Studies described above will inform the preparation of the EIR. In addition, the EIR will gather any comments received from I&APs and determine whether it is necessary to increase the scope of work or amend the ToR for any of the studies.

The EIR will also examine the option of not proceeding with the proposed development – the so-called “No Go” option.

8.1.3.1. Proposed structure of EIR

To avoid the EIR being excessively long and cumbersome, whilst meeting the content requirements specified in the NEMA EIA regulations, the final report will be divided into a number of volumes indicated in Table 8-4.

Table 8-4: Volumes that will be generated in the EIA phase for the proposed Plan8Grahamstown Wind Energy Project

Volume Number	Report	Contents
1	**Scoping Report**	
2	**Environmental Impact Report (EIR)**	This volume will include - **1. Introduction** • Detail of the environmental assessment practitioner who compiled the report • Expertise of the EAP to carry out an environmental impact assessment **2. Description of the Project** • A description of the property on which the activity is to be undertaken • The location of the activity on the property • A description of the types of activities that are proposed for the development. **3. Description of the Affected Environment** • The natural environment • The socio-economic environment • The legal, policy and planning setting **4. The Public Participation Process** • Steps undertaken in order to notify and involve I&APs • Advertisements and media • Meetings held in the PPP • Issues and Comment Trail management **5. Summary of Comments and Response Trail** • Summary of comments and issues raised by I&APs and responses to the issues **6. Summary of Specialist Reports** • Summary of the findings and recommendations of all specialist studies **7. Alternatives Considered** • Description of all alternatives considered in the EIA • Initial screening of alternatives • Description and comparative assessment of all alternatives identified during the EIA **8. The Significance of Potential Environmental Impacts** • The methodology used to determine the significance of environmental impacts • Impacts on the natural environment • Impacts on the socio-economic environment • Impacts on the legal, policy and planning setting

		9. Environmental Impact Statement • A summary of the key findings of the EIA • Comparative assessment of the positive and negative implications of the proposed activity and identified alternatives **10. Conclusions** • Opinion as to whether the activity should or should not be authorised. • Any conditions that should be made in respect to any form of authorisation. *It should be noted that the above is not the exact Table of Contents for the EIA, but is intended to indicate the major topics that will be covered in the report.*
3	**Specialist Studies**	This volume will be a compilation of all the specialist studies undertaken in the EIA, and will include detailed assessments of - • Visual Impact Assessment • Noise Impact Assessment • Agricultural Impact Assessment • Ecological Impact Assessment (incorporating flora and fauna) • Avifauna Impact Assessment • Archaeological and Palaeontological Impact Assessment • Bat (*Chiroptera*) Impact Assessment
4	**Comments and Response Trail**	This volume will include - 1. Lists of persons, organisations and organs of state that were registered as I&APs 2. Comments and Response trail for the Scoping and EIA phases 3. Copies of any representations, objections and comments received from I&APs
5	**Environmental Management Plans (EMP)**	Environmental management plans for key activities at the proposed manganese smelter, which will contain the following - **1. Introduction** • The details of the EAP who prepared the EMP • The expertise of the EAP to prepare an EMP **2. Detailed description of the aspects of the activity covered by the EMP's** **3. Mitigation Measures and Actions** • Planning and Design • Pre-construction and construction activities • Operation and undertaking of the activity • Rehabilitation of the environment **4. Responsibilities** • Persons responsible • Time periods for implementation **5. Monitoring Programme**

8.2. PUBLIC PARTICIPATION PROCESS FOR THE EIA PHASE

The primary aims for the public participation process include the following:

- Meaningful and timeous participation of I&APs;
- Promoting transparency and an understanding of the proposed project and its potential environmental (social and biophysical) impacts;
- Accountability for information used for decision-making;
- Serving as a structure for liaison and communication with I&APs;
- Assisting in identifying potential environmental (socio-economic and biophysical) impacts associated with the proposed development;
- Inclusivity (the needs, interests and values of I&APs must be considered in the decision-making process); and
- Encouragement of shared responsibility and a sense of ownership.

8.2.1. Advertising

In terms of the EIA Regulations, the availability of the Draft EIR will be advertised within newspapers in the predominant languages (English) of the area. The primary aim of these advertisements will be to ensure that the widest group of I&APs possible is informed of the project. Other advertisements to be placed during the course of the EIA phase of the project will relate to the availability of reports for public review, the advertisement of dates of public meetings, as well as the advertising of the environmental authorisation/decision.

8.2.2. Identification of and consultation with Key Stakeholders

I&APs and Key Stakeholders have been identified during the Scoping phase of the project. The identification and engagement if necessary, of I&APs and Key Stakeholders will continue through into the EIA phase of the project as the public participation process is a continuous process that runs throughout the duration of an environmental investigation.

8.2.3. I&AP Database

All I&AP information (including contact details), together with dates and details of consultations and a record of all issues raised is recorded within a comprehensive database of I&APs. This database will be updated on an on-going basis throughout the project, and will act as a record of the communication/involvement process.

8.2.4. Public Review of the Draft Environmental Impact Assessment Report

Consultation with I&APs is considered to be critical to the success of any EIA process. Therefore, one-on-one consultation, focus group meetings and public meetings with I&APs will be undertaken. The aim of this process will be to provide I&APs with details regarding the process and to obtain further comments regarding the proposed project. All of the above will be notified of the Draft EIR availability and dates and venues for the required public meetings.

Minutes of all meetings held will be compiled and forwarded to all attendees. These minutes will also be included in the EIA Report. This consultation process will be on-going throughout the process. Consultation with I&APs will take place at two levels: public meetings for general I&APs who require an overview of the project; and focus group meetings for those who require more in-depth information and intensive interaction.

Public Meetings

The purpose of public meetings is to provide an appropriate format to enable I&APs to raise concerns related to the proposed project. The intention is that I&APs are afforded the opportunity of interacting on a one-on-one basis with technical and planning representatives of Plan8 (Pty) Ltd

as well as the environmental team. I&APs will be encouraged to complete an attendance register and a comment and registration form to assist I&APs in raising concerns and general views on the project.

Focus Group Meetings

The purpose of the focus group meetings is to allow key stakeholders with specific issues to air their views and to facilitate the interaction of the key stakeholders and the project team. The meetings will allow for smaller groups of I&APs and/or representatives of larger interest groups or organisations who wish to play an active role in the process an opportunity for consultation.

Key Stakeholder Workshop

Key stakeholders will be invited by letter to attend a key stakeholder workshop. The purpose is to workshop the proposed project with identified key role-players who operate at a strategic level. It is acknowledged that there are several key stakeholders and interest groups who are expected to take a keen interest in the proposed project, and it is considered to be an appropriate approach to engage these stakeholders in order to avoid potential challenges against the process at a later stage.

The primary aims of the Key Stakeholder Workshop will be to:

- Disseminate/transfer information on the proposed project to stakeholders (including the findings of the environmental studies);
- Answer questions regarding the project and the EIA process;
- Address issues and concerns raised by the key stakeholders;
- Achieve a common understanding and consensus on the issues relating to the proposed project; and
- Receive input regarding the public participation process and the proposed project.

Formal minutes of the key stakeholder workshop will be compiled and distributed to the attendees. These proceedings will also be included in the Final EIR.

An advertisement indicating the availability of this report for public scrutiny will be placed in the predominant languages of the area within local and national newspapers. I&APs registered on the project database will be notified of the availability of this report by letter.

8.2.5. Issues & Response Trail

All issues, comments and concerns raised during the public participation process of the EIA process will be compiled into an Issues Trail and incorporated and submitted as part of the Final EIR.

8.3. CONSIDERATION BY THE COMPETENT AUTHORITY FOR ENVIRONMENTAL AUTHORISATION AND APPEALS PROCESS

After the public review period, all relevant comments and questions received from the public will be considered and responded to and included into the Final EIR. This final document will be submitted to the authorities for final review and decision-making.

Once the EIR has been finalised it will be submitted to the competent authority for review and consideration for authorisation. The authority will grant authorisation, refuse authorisation or request further detail or information to clarify areas of concern. Should authorisation be granted, the decision will carry Conditions of Approval, to which the proponent is obliged to adhere.

The competent authority's decision will be advertised in the newspapers mentioned above and registered I&APs will be informed within 12 days of the date of the Decision. Once the public have been notified of the Environmental Authorisation - formerly known as the Record of Decision (RoD) - anyone wishing to appeal the decision must lodge a notice of intention to appeal with the Minister within 20 days of the date of the decision. The appeal must be submitted, in a form prescribed by the competent authority, within 30 days of lodging the notice of appeal.

9. REFERENCES

Berliner D, Desmet P and Hayes R (2007).Eastern Cape Biodiversity Conservation Plan Handbook. Department of Water Affairs and Forestry Project No 2005-012, King Williams Town. ISBN: 978-0-620-39423-9.

Branch, W.R. 1988. Terrestrial reptiles and amphibians. In: *A Field Guide to the Eastern Cape Coas*t, R. A. Lubke, F. W. Gess and M. N. Bruton (eds.), Grahamstown Centre for the Wildlife Soc. S. Afr., 251-264.

Coastal & Environmental Services, September 2009: *Avifaunal Impact Assessment; Proposed Waainek Wind Energy Project, Grahamstown, Eastern Cape*, CES, Grahamstown.

Frost, D., 1985.*Amphibian species of the World*, Association of Systematic Collections, Kansas, 732p.

IUCN (2009).Red List of Threatened Species. IUCN Species Survival Commission, Cambridge Available: http://www.iucnredlist.org/ (Accessed 12/10/2009).

Jacob, R.E., Mitha, V.R., Macpherson, D. (2004) The Kaolinitic clay deposits on beaconsfield, north of Grahamstown. Department of Geology, Rhodes University Grahamstown.

Marker, M.E. 1988.Geology and geomorphology. In: A field guide to the eastern Cape coast. Eds: Lubke, R.A., Gess, F.W. and Bruton, M. The Grahamstown Centre of the Wildlife Society of Southern Africa.

Mucina, L. & Rutherford, M.C. (eds) 2006. The vegetation of South Africa, Lesotho and Swaziland.*Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

Perrin, M.R. (1998). Terrestrial mammals. In: Field Guide to the Eastern and Southern Cape Coasts. Eds: Lubke, R.A. and de Moor, I. The University of Cape Town Press. ISBN: 1-919713-03-4. p 380-401.

Pierce, S. M. and Mader, A. D. 2006. The STEP Handbook. Integrating the natural environment into land use decisions at the municipal level: towards sustainable development. Centre for African Conservation Ecology (ACE). Report Number 47 (Second Edition). Nelson Mandela Metropolitan University, South Africa.

Van Wyk, A.E. & Smith, G.F. (2001).*Regions of Floristic Endemism in Southern Africa.A Review with Emphasis on Succulents*.Pretoria: Umdaus Press.

Victor, J. E., and Dold, A. P. 2003. Threatened plants of the Albany Centre of Floristic Endemism, South Africa. *South African Journal of Science,* 99: 437-446.

APPENDIX A: THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The Environmental Impact Assessment process comprises two key phases – the Scoping Phase and the Environmental Impact Assessment Phase. These phases are described in detail below.

A1. THE SCOPING PHASE

Scoping is the first step in the EIA process. It allows for all role players – stakeholders and Interested and Affected Parties (I&APs) - to gain a greater understanding of the project by means of a public participation process. Scoping is also critical in as much as it facilitates the early identification of important natural and social issues that will need to be considered later in the process.

The principal objectives of the Scoping Phase are:-

- Describe the nature of the proposed project;
- Preliminary identification and assessment of potential environmental issues or impacts to be addressed in the subsequent EIA phase;
- Define the legal, policy and planning context for the proposed project;
- Describe important biophysical and socio-economic characteristics of the affected environment;
- Undertake a public participation process that provides opportunities for all I&APs to be involved;
- Identify feasible alternatives that must be assessed in the EIA phase; and
- Define the Plan of Study (PoS) for the EIA phase.

Each of the steps involved in the scoping phase is discussed in detail below.

A1.1. Project description

A description of the components of the proposed project is provided.

A1.2. Preliminary assessment of the project

Baseline data and information on the proposed development is collected, primarily from the project proponent, but also from preliminary site surveys and published literature, and from legislation, guidelines and other regulatory instruments, in order to determine the activities for which approval must be sought from the competent environmental authority.

Information sourced from the project proponent includes the proposed location and layout of the development, and the technology to be adopted. A preliminary assessment of this data and information, in the context of legal requirements and an understanding of the receiving environment, is by way of a preliminary risk assessment or fatal flaw analysis. It enables major risks to the project or to the receiving environment to be identified at an early stage in the EIA process, and informs subsequent decisions about aspects of the development identified as being potentially problematic.

A1.3. Legal context

The legislation relevant to the proposed Project is identified and reviewed.

A1.4. Identification of key bio-physical and socio-economic issues

The key biophysical and socio-economic issues related to the project are identified during the Scoping Phase. Relevant information is drawn from as wide a range of sources as possible, including local authorities, local communities, and specialists.

A1.5.Public Participation Process

A public participation process is an explicit requirement of the NEMA EIA regulations, and must take place throughout the EIA process. The approach to public consultation depends largely on the location of the proposed development, the nature of the project, the sensitivity of the receiving environment, the previous level of exposure of the public to the EIA process, and the level of education of those who will be affected by the proposed development. Among other things, involvement of the public in the EIA process is an opportunity to gather local knowledge from individuals, communities and organisations.

Key stakeholders are identified and notified of the proposed development and the ways in which they can be involved. These stakeholders include:-

- Local and regional authorities
- Ratepayers associations
- Ward councillors and representatives
- Non-governmental Organisations (NGOs) and Community Based Organisations (CBOs)
- Landowners adjacent and close to the site of the proposed development.

Stakeholders and I&APs are informed of the proposed development by means of:-

- Advertisements in newspapers
- A background information document (BID)
- Letters to key stakeholders and neighbouring landowners/occupiers
- Notice boards placed at the site

All of the above must include name(s) and contact details - telephone and fax numbers, and e-mail address/es to which stakeholders and I&APs can direct written or verbal comments.

Advertisements are placed in a minimum of one local and one regional newspaper, depending on the nature and extent of the proposed development. Stakeholders and I&APs are encouraged to register by sending their names and contact details to the EAP, whereupon they are sent a copy of the BID, and are thereafter kept informed of and involved in all subsequent stages of the EIA process. The BID is a brief document that provides information on the nature and location of the proposed development, and details of how the EIA process will be undertaken. However, it is unlikely that the final design specifications of some proposed developments are known at this stage, and there may be changes to the information presented in the BID as the project progresses.

In addition, public meetings, open house meetings and/or focus group meetings may be held. In the early stages of the Scoping Phase these meetings provide an opportunity for the Environmental Assessment Practitioner (EAP) to present and discuss the information in the BID, to elicit information from local sources, and to register I&APs. Comment forms provide a further way by which comments may be submitted. In the latter stages meetings provide opportunities to discuss the draft version of the Scoping Report before it is submitted to the competent environmental authority.

A1.6. Identification of alternatives

Possible alternatives to the proposed development must be identified during the Scoping Phase. These may include fundamental alternatives, such as maintaining the current land use, or proposing a development of a different nature to the one proposed by the project proponent. Design alternatives are intended to modify certain design aspects of the proposed project, such as alternative technologies, timing of activities, or the location of infrastructure, so as to minimise negative impacts on the environment. The identification of alternatives must be reasonable and practical.

A1.7. Plan of Study for the EIA Phase

The information and comments received and recorded during the Scoping Phase inform the larger and more comprehensive EIA Phase. This is usually achieved by the development of the Plan of Study (PoS) for the EIA. The PoS defines the actions, steps, and studies that must be undertaken in the EIA Phase.

A1.8. Scoping Reports

The data collected during the baseline data collection and public participation processes must be synthesised in a Scoping Report. In line with NEMA regulations, registered I&APs are entitled to comment, in writing, on all written submissions made to the competent authority by the applicant or the EAP managing an application. Accordingly a Draft Scoping Report is made available for public comment for a minimum period of 40 days. All comments on the draft report must be considered, and necessary changes made to the Draft before it is submitted for review to the competent authority as the final Scoping Report. This report includes the PoS discussed in A1.7 above.

A2. ENVIRONMENTAL IMPACT ASSESSMENT PHASE

The Environmental Impact Assessment (EIA) is a comprehensive evaluation and study phase that addresses all the issues raised in the Scoping Phase. It is a substantial phase that has seven key objectives:-

- Describe the biophysical and socio-economic environment that is likely to be affected by the proposed development.
- Undertake specialist studies to address the key biophysical and socio-economic issues.
- Assess the significance of impacts that may occur from the proposed development.
- Assess the alternatives proposed during the Scoping Phase.
- Provide details of mitigation measures and management recommendations to reduce the significance of impacts.
- Provide a framework for the development of Environmental Management Plans.
- Continue with the public participation process.

A2.1. Specialist Studies

Specialist studies are undertaken to provide a detailed and thorough examination of key issues and environmental impacts. Specialists gather relevant data to identify and assess environmental impacts that might occur on the specific component of the environment that they are studying (for instance waste management, air quality, noise, vegetation, water quality, pollution, waste management). Once completed, these studies are synthesised in, and presented in full as appendices to the Environmental Impact Report (EIR).

A2.2. Public Participation Process

The public participation process (PPP) initiated at the beginning of the Scoping Phase continues into the EIA Phase. Once again the PPP provides a platform from which all I&APs are able to voice their concerns and raise issues regarding the project.

A2.3. Assessment of the Significance of Impacts

It is necessary to determine the significance, or seriousness, of any impacts on the natural or social environment. It is common practice in the EIA Phase to use a significance rating scale that determines the spatial and temporal extent, and the severity and certainty of any impact occurring, including impacts relating to any project alternatives. This allows the overall significance of an impact or benefit to be determined.

The overall intent of undertaking a significance assessment is to provide the competent authority

with information on the potential environmental impacts and benefits, thus allowing them to make an informed, balanced and fair decision.

A2.4. Mitigation Measures and Recommendations

Critical to any EIA is the recommendation of practical and reasonable mitigation measures and recommendations. These recommendations relate to the actions that are needed in order to avoid, minimise or offset any negative impacts from the development.

A3.5. Planning Input

An effective EIA process should actively engage and contribute to the project planning process so as to mitigate environmental impacts through improved design and layout.

A3.6. Environmental Impact Report

The above-mentioned tasks are synthesised in an Environmental Impact Report (EIR). This will allow the assessment of the relationship of environmental impacts to project actions, as well as to assess the overall significance of these impacts. The EIR will also provide sufficient information to allow the competent authority to make an informed decision.

A summary report covering key findings is prepared in a manner that is easy to read and understand. Text will be kept short and technical detail to a minimum, while information will be presented in the form of photographs and figures wherever possible.

A4. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMMES

Draft environmental management programmes based on the findings and recommendations set out in the EIR are prepared. Environmental Management Programmes (EMPrs) and, where necessary, Social Management Plans (SMPs) consist of a set of practical and actionable mitigation, monitoring and institutional measures to be taken into account during construction and operation of the proposed development. The aim is to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. These plans include: -

- The standards and guidelines that must be achieved in terms of environmental legislation.
- Mitigation measures and environmental specifications that must be implemented at ‘ground level’, that is, during construction and operation.
- Provide guidance through method statements to achieve the environmental specifications.
- Define corrective action that must be taken in the event of non-compliance with the specifications of the EMPs and SMPs.
- Prevent long-term or permanent environmental degradation.

A5. ENVIRONMENTAL AUTHORISATION AND APPEALS PROCESS

On thorough examination of the EIR, the competent authority will issue an Environmental Authorisation or reject the application. Should authorisation be granted, it will carry Conditions of Approval. The proponent is obliged to adhere to these conditions.

I&APs must be notified of the decision within 12 days of the date of the decision, and a notification of the intention to appeal the decision must be lodged with the Minister within 20 days of the date of the decision. An appellant then has a further 30 days in which to submit the appeal..

APPENDIX B: PUBLIC PARTICIPATION

APPENDIX B-1: BACKGROUND INFORMATION DOCUMENT

BACKGROUND INFORMATION DOCUMENT & INVITATION TO COMMENT
PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT

Background to the project: Plan 8 (Pty) Ltd, a renewable energy company, plans to develop a wind powered electricity generation facility (known as a 'wind farm') 30km outside of Grahamstown along the N2 in an easterly direction toward East London, in the Eastern Cape Province of South Africa (*refer to Figure 1*). The proposed site is on the farms Gilead, Tower Hill and Peynes Kraal situated approximately 30km east of Grahamstown. Coastal & Environmental Services (CES) has been appointed by Plan 8 (Pty) Ltd to undertake the necessary environmental investigations for the wind farm, and to apply for approval from the Department of Environmental Affairs (DEA), for its construction and operation, as required by South Africa's environmental legislation. Details of the relevant laws, and an overview of the environmental impact assessment process, are provided on the next page.

Project description: The wind farm (refer to Figure 2 for relevant farm portions) is planned to host up to a maximum of 32 turbines, each with a nominal power output ranging between 2-3MW (Mega Watts). The total potential output of the wind farm would be 80MW, and will feed into the national grid.

Dimensions: The ultimate size of the wind turbines will depend on further technical assessments but will typically consist of rotor turbines with rotor diameters around 80 meters mounted atop an 80 to 100 meter steel tower. The tower and turbine design and colour have been optimized to minimize visual impact.

Figure 1: Locality map of the proposed Grahamstown wind farm site, Eastern Cape

AIM OF THIS DOCUMENT

The aim of this Background Information Document (BID) is to provide people affected by and interested in the proposed project with information about this project, the process being followed and to provide them with an opportunity to be involved in the Environmental Impact Assessment (EIA) process.

Return address for comments:

Mr Hylton Newcombe

P.O. Box 934
Grahamstown, 6140

Tel: (046) 622 2364
Fax: (046) 622 6564
Email:
h.newcombe@cesnet.co.za

1

Relevant Legislation

The Environmental Impact Assessment (EIA) regulations, made in terms of Section 24 of Chapter 5 of the National Environmental Management Act (Act No 107 of 1998), and the related Lists of Activities (Government Notices (GN) R.544, R.545 and R.546 of 18th June 2010) specify the activities that require either a Basic Assessment, or a full Scoping and EIA respectively. The activities triggered by the proposed development include:

Number and date of the relevant notice	Activity No(s)	Describe each listed activity
Listing Notice 1 R544	(10)	(10) The construction of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more.
Listing Notice 1 R544	(38)	(38) The expansion of facilities for the transmission and distribution of electricity where the expanded capacity will exceed 275 kilovolts and the development footprint will increase.
Listing Notice 2 R545	(1)	(1) The construction of facilities or infrastructure for the generation of electricity where the electricity is 20 megawatts or more.
Listing Notice 2 R545	(8)	(8) The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex.
Listing Notice 2 R545	(15)	(15) Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more; Except where such physical alteration takes place for: (i) linear development activities; or (ii) agriculture or afforestation where activity 16 in this Schedule will apply.
Listing Notice 3 R546	(4)	(4) The construction of road wider than 4 metres with a reserve less than 13,5metres.
Listing Notice 3 R546	(19)	(19) The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. (see GNR 546 for specific thresholds)

2

The Scoping phase

The Scoping Phase is important for informing the public and relevant authorities about the nature and size of the proposed project. A critical component of the Scoping Phase is the Public Participation Process, in which Interested and Affected Parties (I&APs) are given an opportunity to raise any issues or concerns they may have about the project. The process is outlined in "Approach to this EIA Process" below. The Draft Scoping Report will be made available for review by the authorities and all I&APs. This report will set the scope for the Environmental Impact Assessment Phase.

The Environmental Impact Assessment phase

This phase is more complex and more detailed than the Scoping phase, because it focuses on undertaking a number of specialist studies that have been identified as being necessary during the Scoping phase. These studies provide expert input into the EIA process based on scientific information. I&APs will be consulted again during this phase, and will be given an opportunity to comment on the Draft Environmental Impact Report (EIR) that will contain the specialist reports. During this phase an Environmental Management Plan must also be prepared for the project.

Environmental Authorisation phase

The final EIR is submitted to the Department of Water and Environment formerly the Department of Environmental Affairs and Tourism (DEAT) who, after considering the report, will issue an Environmental Authorisation either allowing the project to continue under certain conditions, or requiring additional work to be undertaken.

Potential issues for investigation

The following specialist studies will be conducted within the proposed wind farm site, to ascertain any potential impacts, positive and negative, that may occur as a result of pre-construction, construction and operational phases.

- ***Visual and aesthetic impacts***

A wind farm will normally have a high visibility due mainly to the height of the turbines.

- ***Noise impacts***

The Noise Impact Investigation will be conducted in accordance with the South African National Standard (SANS) 10328 "Methods for environmental noise impact assessments"

- ***Ecological impacts***

The location of any species of special concern will be identified, and the location noted in order to inform the mitigation and management measures.

- ***Avifaunal impacts***

Potential impacts to birds

- ***Bat (Chiroptera) impacts***

Potential impacts to bats

- ***Heritage and/or palaeontological impacts***

Potential impacts on heritage, cultural resources and/or fossils etc.

APPROACH TO THIS ENVIRONMENTAL IMPACT ASSESSMENT

The process required for the proposed Plan 8 Grahamstown Windfarm Project is an Environmental Impact Assessment. The Process serves primarily to inform the public and relevant authorities about the proposed project and to determine any impact(s). Should all impacts and issues be adequately addressed in the Environmental Impact Report, it will serve as the final document. The EIA process is as follows:

The Scoping Phase

↓

Development Proposal

↓

Identify and notify interested and Affected Parties (I&APs)

↓

Gather issues and concerns

↓

Prepare Draft Scoping Report

↓

Review of Draft Scoping Report by I&APs

↓

Submit Final Scoping Report to Authority

↓

PROCEED TO ENVIRONMENTAL IMPACT ASSESSMENT PHASE

↓

Notify interested and Affected Parties (I&APs) of Environmental Authorization

↓

Gather issues and concerns

↓

Conduct relevant specialist studies

↓

Prepare Draft Environmental Impact Report

↓

Review of Draft Environmental Report by I&APs

↓

Submit Final EIA Report to Authority

↓

WAIT FOR ENVIRONMENTAL AUTHORIZATION

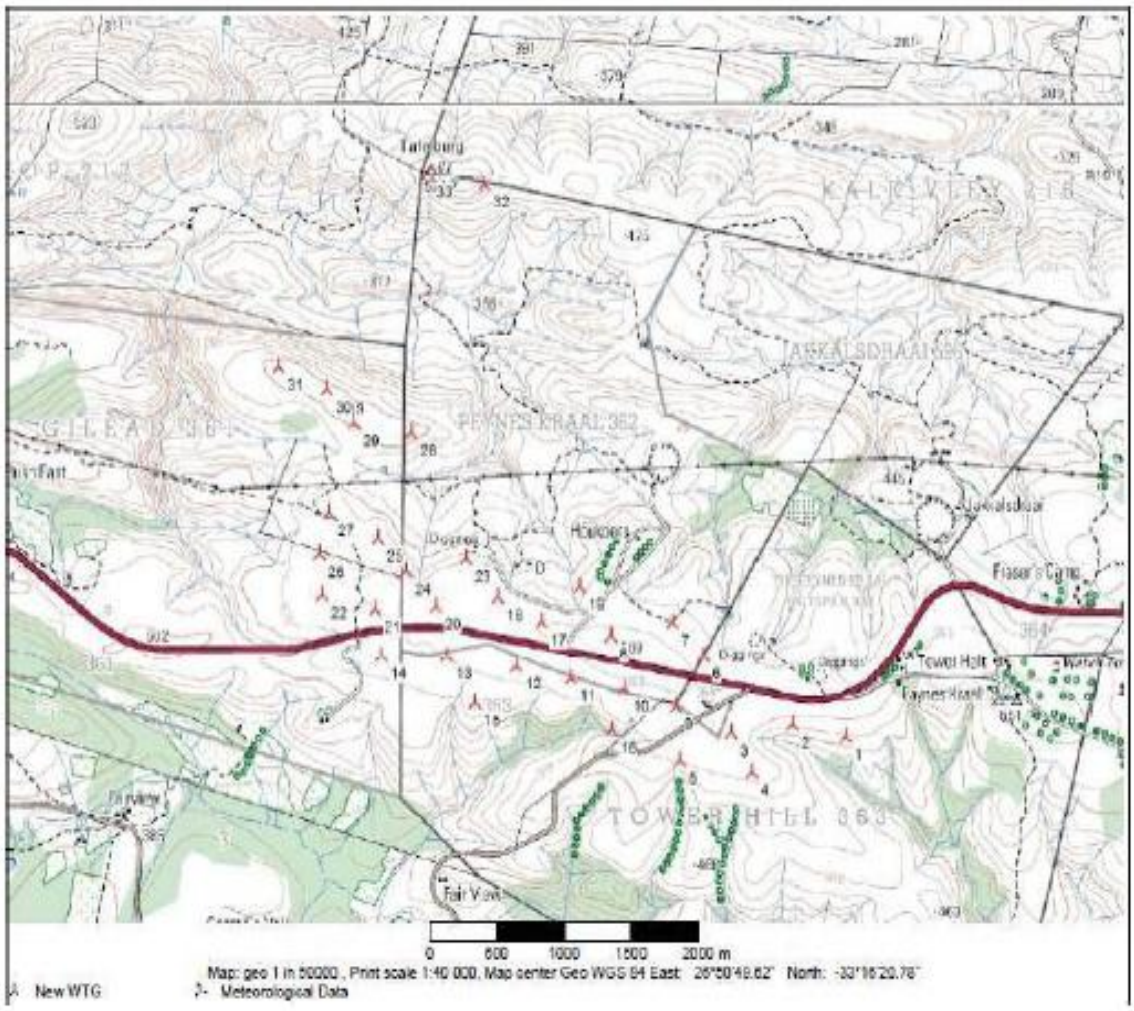


Figure 2: Locality map showing the location of the proposed wind farm and turbine layout

I hereby wish to register as an Interested and Affected Party (IAP) for the Plan 8 Grahamstown Wind Farm EIA process

Name: _____

Postal address: _____

Email: _____

Organization: _____

Phone #: _____ Fax #: _____

Please return details to: **Mr Hylton Newcombe**: P.O. Box 934, Grahamstown, 6140
Telephone: (046) 622 2364; Fax: (046) 622 6564
Email: h.newcombe@cesnet.co.za

4

APPENDIX B-2: CONTACT DETAILS AND COPY OF LETTER SENT TO LAND OWNERS AND OCCUPIERS OF LAND IMMEDIATELY SURROUNDING AND WITHIN 100m OF THE PROPOSED PLAN8GRAHAMSTOWN WIND ENERGY PROJECT DEVELOPMENT SITE

NAME	OCCUPATION/AFFILIATION	CONTACT				PHYSICAL/POSTAL ADDRESS
		Telephone	Mobile	Fax	Email	
Immediate Landowners						
Gavin Dixon	Farmer. Gilead Farm	46622 7758	847675097	86697 5204	gbd@geenet.co.za	POBox 6292 Grahamstown, Market Square 6141 (owns farm but does not reside there)
Morne and MarteErwee	Tower Hill Farm		0823007730 (Morne)		no email address	Fairview farm, Koondesvalley, Grahamstown
Wayne Nortier	Peynes Kraal Farm	466 361 810	823193207 (Wayne) 0795274335 (Felicity)		waynenortier@gmail.com felicity@deklerk-devilliers.co.za	POBOX 19 Grahamstown 6139 / Hourkers farm Albany District Grahamstown
Surrounding Landowners						
Glyn Dixon	Chairman - Coomb Farmers Association	466 227 776	727 641 303	866 204 765	claypits@geenet.co.za	
OrgieCrous	Farmer - Honeykop No361	46622 8474	826609974	46622 8474	no email address	PO BOX 362, Grahamstown, 6140
Jeremy Allan			827846805		jjrallan@yahoo.com	17 Milner strGrahamstown
Gilbert Coetzee	Coombesvale		828085961		gmd@geenet.co.za	POBOX 2204 Grahamstown 6140
James Williamson	Glenvoid		824412055		james@geenet.co.za	45 Kingsview Estate Miles rdGrahamstown
Andre Coetzee			826592710		no email address	POBOX 267 GHT
Fred Pittaway	Valleyview and Kaasvlei (sp.?)	46622 3663	834792762		valleyview@xfinet.co.za	POBOX 2225 GHT
DyobaniBayaneyi			826378632			262B Grahamstown

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

ATTENTION: OWNERS AND/OR OCCUPIERS OF LAND IMMEDIATELY SURROUNDING OR WITHIN 100m OF PLAN 8 GRAHAMSTOWN WIND FARM NEAR GRAHAMSTOWN IN THE EASTERN CAPE

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of the National Environmental Management Act 1998 (Act No. 107 of 1998) and relevant Environmental Impact Assessment (EIA) regulations made in terms of this Act (Government Notice No R.543) dated 18 June 2010, notification is hereby given in terms of Regulation 15: *"Activity on land owned by person other than applicant"*. In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notfied of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above.

Yours sincerely,

Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

18 October 2011

ATTENTION: OWNERS AND/OR OCCUPIERS OF LAND IMMEDIATELY SURROUNDING OR WITHIN 100m OF PLAN 8 GRAHAMSTOWN WIND FARM NEAR GRAHAMSTOWN IN THE EASTERN CAPE

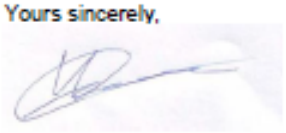
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 56 (2) (b) (v) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to the owners and occupiers of land adjacent to the site where a proposed development activity is or is to be undertaken or to any alternative site*". In accordance with this requirement, please find here-with a letter of notification for a basic environmental assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm") 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above.

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

APPENDIX B-3: CONTACT DETAILS AND COPIES OF THE LETTERS SENT TO GOVERNMENT DEPARTMENTS, MUNICIPALITIES AND OTHER KEY STAKEHOLDERS AND PROOF OF REGISTERD LETTERS SENT TO THE ABOVE MENTIONED AND IMMEDIATE LANDOWNERS

NAME	OCCUPATION/ AFFILIATION	CONTACT				PHYSICAL/POSTAL ADDRESS
		Telephone	Mobile	Fax	Email	
Government						
Mr BriantNoncembu	DEDEA (Amathole)				Briant.Noncembu@deaet.ecape.gov.za	Private Bag X5029 Mthatha 5099
Carin Swart	DEDEA				Carin.Swart@deaet.ecape.gov.za	
Dan Malgas	DAFF Forestry				MalgasM@dwaf.gov.za	
S. Gwen	DAFF Forestry	(043) 604 5301			gwendolines@daff.gov.za	
AnnelizaCollett	DAFF Agri				annelizac@nda.agric.za	
M Mathekgana	Dept of Energy	(012) 444-4261			mokgadi.mathekgana@energy.gov.za	
Municipality						
NtonekNocweka	Makana Municipality			072 8195472	ntontela@makana.gov.za	
AneleKwayimani	Makana Municipality	046 622 9186	046 603 6062	083 6955 406	anele.kwayimani@webmail.co.za	
XhanliBokue	Makana Municipality			083 335 4843		
Casa Yonela	Makana Municipality			072 1330292	casayo@webmail.co.za	
Key Stakeholders						
NannaGouws	SANRAL				GouwsJ@nra.co.za	
Mariagrazia Galamberti	SAHRA				mgalimberti@sahra.org.za	
XolaniWana	ESKOM				Xolani.Wana@eskom.co.za	
Lizelle Stroh	SACAA				strohl@caa.co.za	
Irene de Moor	WESSA				irenedemoor@imaginet.co.za	
Jenny Gon	WESSA				j-gon@intekom.co.za	PO Box 73, Grahamstown, 6140

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Department of Environmental Affairs
Private Bag X447
Pretoria
0001

Attention: Administration Officer

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a "wind farm") 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above.

Yours sincerely,

Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Department of Economic Development and Environmental Affairs
Private Bag X5001
Greenacres,
Port Elizabeth
6057

Attention: Mr Leon Els

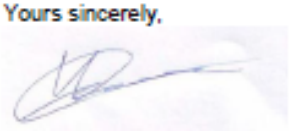
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above.

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Mr Ntomebekhaya Baart
Makana Local Municipality
City Hall,
High Street,
Grahamstown,
6140

ATTENTION: Mr Ntomebekhaya Baart

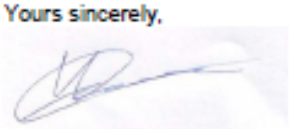
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (*v*) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to the municipality which has jurisdiction in the area*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a "wind farm") 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above.

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

South African Civil Aviation Authority
Private Bag X73
Halfway House
1685

To Whom It May Concern

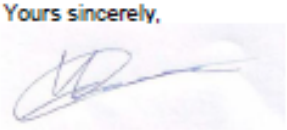
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Mrs Anneliza Collett,
Directorate: Land Use and Soil Management,
Department of Agriculture, Forestry and Fisheries
Private Bag X250,
Pretoria,
0001

ATTENTION: Mrs Anneliza Collett

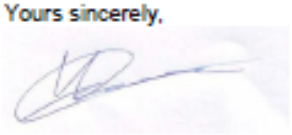
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Department of Energy
Private Bag X59
Pretoria
0001

ATTENTION: Ms M Mathekgana

CC: Mr A. Otto; Ms N. Qase

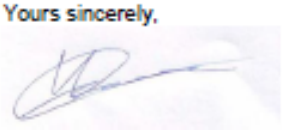
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Department of Water Affairs
P.O. Box 7019
EAST LONDON
5200

ATTENTION: Ms Lizna Fourie

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,

Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

ESKOM Holdings Limited
Private Bag X1
Beacon Bay
5205

ATTENTION: Mr. Tom Smith,

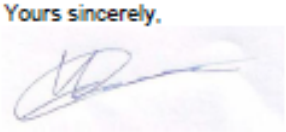
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a "wind farm") 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

South African Heritage Resources Agency
P.O. Box 759
EAST LONDON
5200

ATTENTION: The Provincial Manager

CC: The Provincial Manager Western Cape Provincial Office

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,

Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

19 October 2011

Pumzo Mdleleni
Vodacom
Vodacom SA Eastern Region
P.O. Box 27504
Greenacres
Port Elizabeth,
6004

ATTENTION: Pumzo Mdleleni,

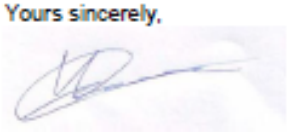
NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a 'wind farm') 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,



Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

COASTAL & ENVIRONMENTAL SERVICES
Environmental Management and Impact Assessment

67 African Street
P O Box 934
Grahamstown 6139
SOUTH AFRICA
Tel: 046 622 2364
Fax: 046 622 6564
Email: info@cesnet.co.za
Website: www.cesnet.co.za

13 October 2011

Wildlife and Environment Society of Southern Africa
PO Box 73,
Grahamstown,
6140,
Eastern Cape, South Africa

ATTENTION: Mrs. Jennifer Gon,

NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED DEVELOPMENT OF A WIND ENERGY PROJECT AT GRAHAMSTOWN IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

In accordance with the requirements of section 54 (2) (b) (vi) of the Environmental Impact Assessment Regulations (2010) made in terms of section 24(5) of the National Environmental Management Act (Act No 107 of 1998) as amended, we are required to, "*give written notice to any organ of state having jurisdiction in respect of any aspect of the activity*". In accordance with this requirement, please find here-with a letter of notification for an environmental impact assessment being carried out by Coastal and Environmental Services in respect of the above-mentioned project.

Plan 8 (Pty) Ltd - a renewable energy company, plans to develop a wind power generation facility (known as a "wind farm") 30km outside Grahamstrown, toward East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal power output ranging between 2-3 Mega Watts (MW). The total potential output of the wind farm would be 80MW. The wind farm will cover an area of approximately 2 550 hectares.

- Coastal & Environmental Services (CES) of Grahamstown have been appointed by Plan 8 (Pty) Limited, to conduct an environmental impact assessment for the proposed development. The activities that we believe will be triggered by the proposed development are listed in the application and the Background Information Document (BID) that is attached to this letter.
- A public meeting will be held to present the project and to give the public an opportunity to comment on the proposed development. You will be notified of the date, time and venue for the public meeting accordingly.
- CES would highly appreciate it if you could please send us a letter confirming your receipt of this notification. For more information, please feel free to contact Mr. Hylton Newcombe at the CES Grahamstown office numbers shown above

Yours sincerely,

Hylton Newcombe
Environmental Consultant

East London: Tel: 043 742 3302 Fax: 043 742 3306 Email: cesel@cesnet.co.za

Proof of invoice for the mailing of the registered letters

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)

32

Post Office

Full tracking and tracing/Volledige volg en spoor

Name and address of sender:
Naam en adres van afsender: AMBER JACKSON - C.E.S
67 AFRICAN STREET
GRAHAMSTOWN 6140

Enquiries/Navrae
Toll-free number
Tovry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-
1	MS LIZNA FOURIE - DEPT OF WATER AFFAIRS PO BOX 7019 EAST LONDON 5200					REGISTERED LETTER RD 665 761 577 ZA CUSTOMER COPY
2	MS. M MATHERGANA - DEPT. OF ENERGY PRIVATE BAG X59 PRETORIA 0001					REGISTERED LETTER RD 665 761 585 ZA CUSTOMER COPY
3	DYOBANI BYANEH 262 B GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 550 ZA CUSTOMER COPY
4	FEED ATTANAY - VALLEYVIEW 1 KAASVLEI PO BOX 2225 GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 563 ZA CUSTOMER COPY
5	ANDRE COETZEE PO BOX 267 GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 546 ZA CUSTOMER COPY
6	JAMES WILLIAMSON - GLENVOID 45 KINGSTON ESTATE NILES ROAD EAST GRDS					REGISTERED LETTER RD 665 761 532 ZA CUSTOMER COPY
7	GILBERT COETZEE - CUMBUSVALE PO BOX 2224 GHT 6140					REGISTERED LETTER RD 665 761 648 ZA CUSTOMER COPY
8	JEREMY ALLAN 17 MILNER STREET GHT 6140					REGISTERED LETTER RD 665 761 634 ZA CUSTOMER COPY
9	GREGG CECIL - HONEYDEW No 361 PO BOX 362, GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 625 ZA CUSTOMER COPY
10	NYNE NOETHER - PEINES KRAAL FARM GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 617 ZA CUSTOMER COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos: 10/TEN

Signature of client / Handtekening van kliënt:

Signature of accepting officer / Hantekening van aanneembeampte:

Date Stamp
GRAHAMSTOWN 6140 2011-12-14
Datumstempel

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

701248

LEBONE LITHO PRINTERS (PTY)LTD.

List of REGISTERED LETTERS
Lys van GEREGISTREERDE BRIEWE
(with an insurance option/met 'n versekeringsopsie)

(132)

Post Office

Full tracking and tracing/Volledige volg en spoor

Name and address of sender:
Naam en adres van afsender: A JACKSON - C.E.S
67 AFRICAN STREET
GRAHAMSTOWN

Enquiries/Navrae
Toll-free number
Tovry nommer
0800 111 502

No	Name and address of addressee / Naam en adres van geadresseerde	Insured amount / Versekerde bedrag	Insurance fee / Versekeringsgeld	Postage / Posgeld	Service fee / Diensgeld	Affix Track and Trace customer copy / Plak Volg-en-Spoor-kliëntekopie
1	MORNE & MARTE ERWEE - TOWER HILL FARM FAIRVIEW FARM KOMGGSVALLEY GHT 6140					REGISTERED LETTER RD 665 761 603 ZA CUSTOMER COPY
2	GAVIN DIXON - GILEAD FARM PO BOX 62412 GHT. 6140					REGISTERED LETTER RD 665 761 594 ZA CUSTOMER COPY
3	MRS. ANNELIZA COLLET - DEPT OF AGRIC, FORESTRY & FISHERIES P/BAG X250 PRETORIA 0001					REGISTERED LETTER RD 665 761 696 ZA CUSTOMER COPY
4	MR TOM SMITH - ESKOM HOLDINGS LTD P/BAG X1 BEACON BAY EAST LONDON 5205					REGISTERED LETTER RD 665 761 705 ZA CUSTOMER COPY
5	TO WHOM IT MAY CONCERN - SACAA P/BAG X73 HALFWAY HOUSE 1685					REGISTERED LETTER RD 665 761 682 ZA CUSTOMER COPY
6	MRS JENNIFER GOW - NESSA PO BOX 73 GRAHAMSTOWN 6140					REGISTERED LETTER RD 665 761 679 ZA CUSTOMER COPY
7	THE PROVINCIAL MANAGER - SAHRA PO BOX 759, EAST LONDON 5200					REGISTERED LETTER RD 665 761 651 ZA CUSTOMER COPY
8	MRS NDONDENHAYA BAART - MAKANA L-M CITY HALL HIGH STREET GHT 6140					REGISTERED LETTER RD 665 761 665 ZA CUSTOMER COPY
9	MR. LEON ELS - DEDEA P/BAG X5001 GREENACRES PE 6057					REGISTERED LETTER RD 665 761 722 ZA CUSTOMER COPY
10	ADVIN OTTLER - DEPT OF ENV AFFAIRS P/BAG X447 PRETORIA 0001					REGISTERED LETTER RD 665 761 719 ZA CUSTOMER COPY
	Total / Totaal	R	R	R	R	

Number of letters posted / Getal briewe gepos: 10/TEN

Signature of client / Handtekening van kliënt: [signature]

Signature of accepting officer / Hantekening van aanneembeampte: [signature]

Date Stamp / Datumstempel
GRAHAMSTOWN 6140

The value of the contents of these letters is as indicated and compensation is not payable for a letter received unconditionally. Compensation is limited to R100,00. No compensation is payable without documentary proof. Optional insurance of up to R2 000,00 is available and applies to domestic registered letters only.

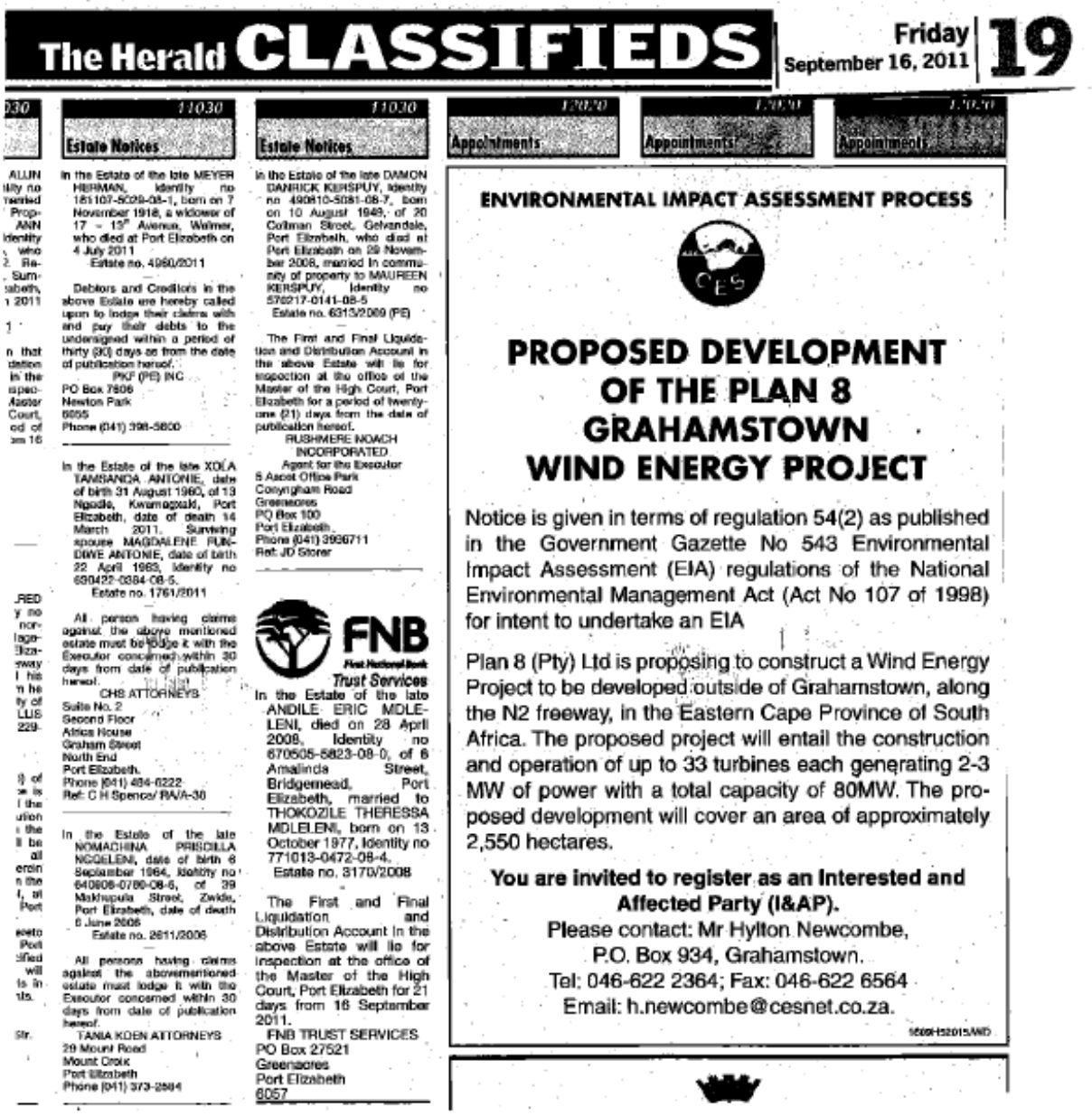
Die waarde van die inhoud van hierdie briewe is soos aangedui en vergoeding sal nie betaal word vir 'n brief wat sonder voorbehoud ontvang word nie. Vergoeding is beperk tot R100,00. Geen vergoeding is sonder dokumentêre bewys betaalbaar nie. Opsionele versekering van tot R2 000,00 is beskikbaar en is slegs op binnelandse geregistreerde briewe van toepassing.

701248

LEBONE LITHO PRINTERS (PTY) LTD

APPENDIX B-4: COPY OF NEWSPAPER ADVERTISEMENT NOTIFYING I&APS OF THE PROPOSED PLAN8GRAHAMSTOWN WIND ENERGY PROJECT (Inception Phase)

THE HERALD(Provincial) – 19 September 2011



The Herald CLASSIFIEDS Friday September 16, 2011 19

11030 Estate Notices

ALLIN ... Sum- ... 2011 ... that ... in the ... Master Court, ... of ... 16

In the Estate of the late MEYER HERMAN, Identity no 181107-5028-08-1, born on 7 November 1918, a widower of 17 – 13th Avenue, Walmer, who died at Port Elizabeth on 4 July 2011
Estate no. 4960/2011

Debtors and Creditors in the above Estate are hereby called upon to lodge their claims with and pay their debts to the undersigned within a period of thirty (30) days as from the date of publication hereof.
PKF (PE) INC
PO Box 7806
Newton Park
6055
Phone (041) 398-5800

In the Estate of the late XOLA TAMSANQA ANTONIE, date of birth 31 August 1960, of 13 Ngqidi, Kwamagxaki, Port Elizabeth, date of death 14 March 2011. Surviving spouse MAGDALENE FUNDIWE ANTONIE, date of birth 22 April 1963, Identity no 630422-0384-08-5.
Estate no. 1761/2011

All person having claims against the above mentioned estate must be lodge it with the Executor concerned within 30 days from date of publication hereof.
CHS ATTORNEYS
Suite No. 2
Second Floor
Africa House
Graham Street
North End
Port Elizabeth.
Phone (041) 484-6222
Ref: C H Spence/ RA/A-30

In the Estate of the late NOMACHINA PRISCILLA NCGELENI, date of birth 6 September 1964, Identity no 640906-0780-08-6, of 39 Makhupula Street, Zwide, Port Elizabeth, date of death 6 June 2006
Estate no. 2611/2006

All persons having claims against the abovementioned estate must lodge it with the Executor concerned within 30 days from date of publication hereof.
TANIA KOEN ATTORNEYS
29 Mount Road
Mount Croix
Port Elizabeth
Phone (041) 373-2584

11030 Estate Notices

In the Estate of the late DAMON DANRICK KERSPUY, Identity no 490810-5081-08-7, born on 10 August 1949, of 20 Collman Street, Gelvandale, Port Elizabeth, who died at Port Elizabeth on 29 November 2008, married in community of property to MAUREEN KERSPUY, Identity no 570217-0141-08-5
Estate no. 6313/2009 (PE)

The First and Final Liquidation and Distribution Account in the above Estate will lie for inspection at the office of the Master of the High Court, Port Elizabeth for a period of twenty-one (21) days from the date of publication hereof.
RUSHMERE NOACH INCORPORATED
Agent for the Executor
5 Ascot Office Park
Conyngham Road
Greenacres
PO Box 100
Port Elizabeth
Phone (041) 3996711
Ref: JD Storer

FNB First National Bank Trust Services

In the Estate of the late ANDILE ERIC MDLELENI, died on 28 April 2008, Identity no 670505-5823-08-0, of 6 Amalinda Street, Bridgemead, Port Elizabeth, married to THOKOZILE THERESSA MDLELENI, born on 13 October 1977, Identity no 771013-0472-08-4.
Estate no. 3170/2008

The First and Final Liquidation and Distribution Account in the above Estate will lie for inspection at the office of the Master of the High Court, Port Elizabeth for 21 days from 16 September 2011.
FNB TRUST SERVICES
PO Box 27521
Greenacres
Port Elizabeth
6057

11030 Appointments | 11030 Appointments | 11030 Appointments

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PROPOSED DEVELOPMENT OF THE PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT

Notice is given in terms of regulation 54(2) as published in the Government Gazette No 543 Environmental Impact Assessment (EIA) regulations of the National Environmental Management Act (Act No 107 of 1998) for intent to undertake an EIA

Plan 8 (Pty) Ltd is proposing to construct a Wind Energy Project to be developed outside of Grahamstown, along the N2 freeway, in the Eastern Cape Province of South Africa. The proposed project will entail the construction and operation of up to 33 turbines each generating 2-3 MW of power with a total capacity of 80MW. The proposed development will cover an area of approximately 2,550 hectares.

You are invited to register as an Interested and Affected Party (I&AP).

Please contact: Mr Hylton Newcombe,
P.O. Box 934, Grahamstown.
Tel: 046-622 2364; Fax: 046-622 6564
Email: h.newcombe@cesnet.co.za.

1608-HS2015/AND

GROCOTT'S MAIL (Local) – 16 September 2011

Grocott's Mail Friday, 16 September 2011 NEWS 19

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PROPOSED DEVELOPMENT OF THE PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT

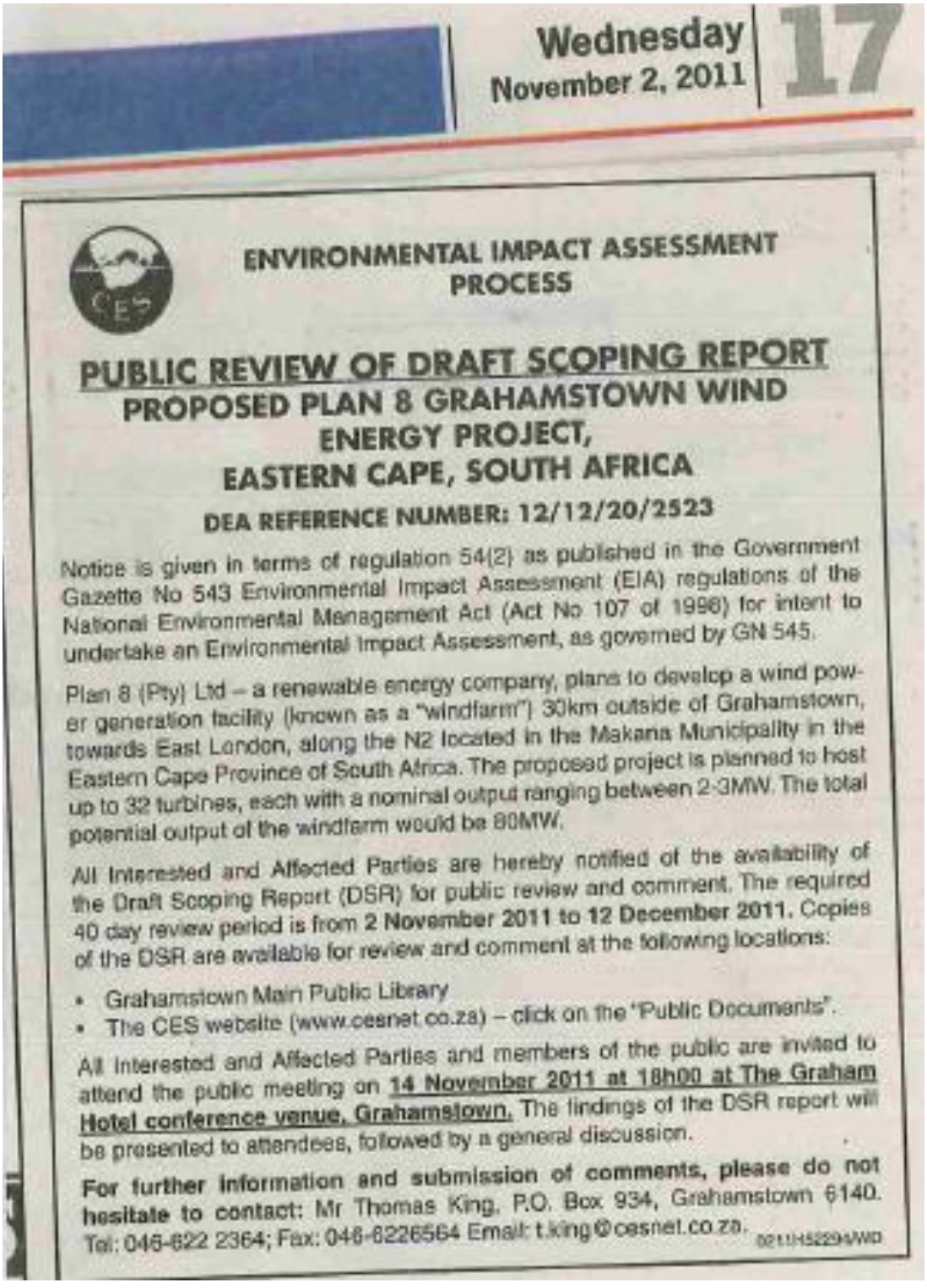
Notice is given in terms of regulation 54(2) as published in the Government Gazette No 543 Environmental Impact Assessment (EIA) regulations of the National Environmental Management Act (Act No 107 of 1998) for intent to undertake an EIA

Plan 8 (Pty) Ltd is proposing to construct a Wind Energy Project to be developed outside of Grahamstown, along the N2 freeway, in the Eastern Cape Province of South Africa. The proposed project will entail the construction and operation of up to 33 turbines each generating 2-3 MW of power with a total capacity of 80MW. The proposed development will cover an area of approximately 2,550 hectares.

You are invited to register as an Interested and Affected Party (I&AP). Please contact: Mr Hylton Newcombe, P.O. Box 934, Grahamstown. Tel: 046-622 2364; Fax: 046-622 6564 Email: h.newcombe@cesnet.co.za.

COPY OF NEWSPAPER ADVERTISEMENT NOTIFYING I&APS OF THE PROPOSED DRAFT SCOPING REPORT WHEREABOUTS AND THE TIME, DATE AND VENUE FOR THE PUBLIC MEETING AND THE DURATION OF THE REVIEW PERIOD FOR THE PLAN8GRAHAMSTOWN WIND ENERGY PROJECT

THE EP HERALD(Provincial) – 2nd November 2011



Wednesday November 2, 2011 17

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PUBLIC REVIEW OF DRAFT SCOPING REPORT PROPOSED PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT, EASTERN CAPE, SOUTH AFRICA

DEA REFERENCE NUMBER: 12/12/20/2523

Notice is given in terms of regulation 54(2) as published in the Government Gazette No 543 Environmental Impact Assessment (EIA) regulations of the National Environmental Management Act (Act No 107 of 1998) for intent to undertake an Environmental Impact Assessment, as governed by GN 545.

Plan 8 (Pty) Ltd – a renewable energy company, plans to develop a wind power generation facility (known as a "windfarm") 30km outside of Grahamstown, towards East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal output ranging between 2-3MW. The total potential output of the windfarm would be 80MW.

All Interested and Affected Parties are hereby notified of the availability of the Draft Scoping Report (DSR) for public review and comment. The required 40 day review period is from **2 November 2011 to 12 December 2011.** Copies of the DSR are available for review and comment at the following locations:

- Grahamstown Main Public Library
- The CES website (www.cesnet.co.za) – click on the 'Public Documents".

All Interested and Affected Parties and members of the public are invited to attend the public meeting on **14 November 2011 at 18h00 at The Graham Hotel conference venue, Grahamstown.** The findings of the DSR report will be presented to attendees, followed by a general discussion.

For further information and submission of comments, please do not hesitate to contact: Mr Thomas King, P.O. Box 934, Grahamstown 6140. Tel: 046-622 2364; Fax: 046-6226564 Email: t.king@cesnet.co.za.

021/H5229/WD

GROCOTT'S MAIL (Local) – – 4th November 2011

Grocott's Mail Friday, 4 November 2011 INTERFAITH

Thought for the week

Great is your love towards us

KING David was overwhelmed by God's love and deliverance of his life; a love and deliverance every born-again child of God knows.

A love that has called, set free, forgiven, a love that perseveres, comforts and strengthens. A love and deliverance that stirs in our hearts a desire to walk in the ways of our God, to fear His name, to stand in awe of and to revere His name. To bring Him praise with all our hearts, not just a lip service, and to glorify His name forever. Such is the nature of God's love and deliverance.

It's these deep desires stirred by the love of God that brought David to his knees, crying out to God: "Teach me your way, O Lord, and I will walk in your truth; give me an undivided heart, that I may fear your name," (Psalm 86:11).

Christian friends, consider the depth and riches of His love for you and as you do so may you too be brought to that glorious place of complete and utter devotion to God. May your heart desire to exercise reverence and honour to God, to be single in its purpose to enjoy and please God.

How wonderful it is to know that God's love for us is personal and eternal in Jesus Christ. Amen.

Dirk Coetzee, Pastor of the Grahamstown

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

PUBLIC REVIEW OF DRAFT SCOPING REPORT
PROPOSED PLAN 8 GRAHAMSTOWN WIND ENERGY PROJECT, EASTERN CAPE, SOUTH AFRICA

DEA REFERENCE NUMBER: 12/12/20/2523

Notice is given in terms of regulation 54(2) as published in the Government Gazette No 543 Environmental Impact Assessment (EIA) regulations of the National Environmental Management Act (Act No 107 of 1998) for intent to undertake an Environmental Impact Assessment, as governed by GN 545.

Plan 8 (Pty) Ltd □ a renewable energy company, plans to develop a wind power generation facility (known as a □windfarm□) 30km outside of Grahamstown, towards East London, along the N2 located in the Makana Municipality in the Eastern Cape Province of South Africa. The proposed project is planned to host up to 32 turbines, each with a nominal output ranging between 2-3MW. The total potential output of the windfarm would be 80MW.

All Interested and Affected Parties are hereby notified of the availability of the Draft Scoping Report (DSR) for public review and comment. The required 40 day review period is from 3 **November 2011 to 13 December 2011.** Copies of the DSR are available for review and comment at the following locations:

- Grahamstown Main Public Library
- The CES website (www.cesnet.co.za) □click on the □Public Documents□

All Interested and Affected Parties and members of the public are invited to attend the public meeting on **14 November 2011 at 18h00 at the Graham Hotel Conference Venue, Grahamstown.** The findings of the DSR report will be presented to attendees, followed by a general discussion.

For further information and submission of comments, please do not hesitate to contact: Mr Thomas King, P.O. Box 934, Grahamstown 6140. Tel: 046-622 2364; Fax: 046-6226564 Email: t.king@cesnet.co.za.

APPENDIX B-5: COPY OF SITE NOTICE TEXT ANDPHOTOGRAPHS PLACED AT THE ENTRANCE TO EACH FARM (THE FARMS GILEAD, TOWER HILL AND PEYNES) NOTIFYING I&APS OF THE PROPOSED PLAN8 GRAHAMSTOWN WIND ENERGY PROJECT

PROPOSED DEVELOPMENT OF THE PLAN8 GRAHAMSTOWN WIND ENERGY PROJECT IN THE EASTERN CAPE PROVINCE

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Notice is given in terms of Regulation 54 of the Environmental Impact Assessment (EIA) Regulations published in Government Notice R543 in Government Gazette No 33306 of 02 August 2010, under Section 24(5) of the National Environmental Management Act 1998 (Act No 107 of 1998), as amended, that a wind energy project is proposed for construction at Farms Gilead, Tower Hill and Peynes Kraal, Grahamstown in the Makana Municipality in the Eastern Cape Province.

The proposed project will entail the construction and operation of up to 32 turbines each generating 2.5MW of power with a total generation capacity of ~ 80MW.

In terms of the EIA regulations, the proposed development will require a full scoping and Environmental Impact Assessment (EIA). Plan8 (Pty) Limited has appointed Coastal and Environmental Services (CES) to undertake the EIA. The application has been submitted to the Department of Environmental Affairs (DEA).

If you have any comments or queries, or if you require further information, please contact
Mr. Hylton Newcombe at:-
Tel: 046 622 2364; or Fax: 046 622 6564; or Email: h.newcombe@cesnet.co.za

Plate B5 – 1: Site notice erected at the entrance to the Farm Gilead. GPS co-ordinates (33.282154 S; 26.83058 E)

Plate B5 – 2: Site notice erected at the entrance to the Farm Tower Hill. GPS co-ordinates (33.285775 S; 26.862073 E)

Plate B5 – 3: Site notice erected at the entrance to the Farm Peynes. GPS co-ordinates (33.283142 S; 26.847159 E)

APPENDIX B-6: ATTENDANCE REGISTER FROM THE PUBLIC MEETING HELD AT THE GRAHAM HOTEL, GRAHAMSTOWN

ATTENDANCE REGISTER

Plan 8 Grahamstown Wind Energy Project (Environmental Impact Assessment – Scoping Phase): Public Meeting, Grahamstown. Graham Hotel Conference Venue - 14 November 2011, 18h00.

NAME	POSTAL ADDRESS	CONTACT			
		TELEPHONE	FAX	CELL PHONE	EMAIL
P. de Klerk	Box 160 GHT	0828095425	046-6223118		paire@dekklerk-deviliers.co.za
K.N Crous	P.O Box 362 GHT	046 6228474	046 6228474		
O. CROUS	Box 362 GTN	0826609974	046 6228474		
G.L. DIXON	P.O. Box 6272 GTN	046 6227776 0727641303		0727641303	claypits@geenet.co.za
G.B. DIXON	P.O. Box 6292	046 6227758 0847675097	0866975204	0847675097	gbd@geenet.co.za
W.L. NORTIER	P.O Box 19	046-6361810 0823193207	040-6088832	0823193207	waynenortier@gmail.com
MJ Erwee	Po box 621	0823007730	0466360011	0823007730	jmichau@zazu.co.za
MS Miller				0825921664	
P. MINI	40 HIGH STREET	046 622 7222	–	–	p.mini@grocotts.co.za
J. Gon	PO Box 73, GHT	046 622 5822(H)	–	–	j-gon@intekom.co.za
R. Cooper		046 622 5753 0827471888		0827471888	robc@terrapower.co.za
Z. Jessa	103 New Church St. - Cape Town				Zuben.Jessa@Plan-8.co.za

ATTENDANCE REGISTER

Plan 8 Grahamstown Wind Energy Project (Environmental Impact Assessment – Scoping Phase): Public Meeting, Grahamstown. Graham Hotel Conference Venue - 14 November 2011, 18h00.

NAME	POSTAL ADDRESS	CONTACT			
		TELEPHONE	FAX	CELL PHONE	EMAIL
Elbrecht Oswald		0466632063			~~elbrechtoswald@gmail.com~~ eoswald@nordex-online.com
Jason Cope	Box 3804 C.T. 8000	021 8117272		-	jason.cope@plan-8.co.za

APPENDIX B-6: PHOTOGRAPHS OF THE PUBLIC MEETING HELD AT THE GRAHAM HOTEL, GRAHAMSTOWN

APPENDIX B-7: MINUTES OF THE PUBLIC MEETING HELD AT THE GRAHAM HOTEL, GRAHAMSTOWN

Infinite Plan8 Grahamstown Windfarm
Public meeting, Graham Hotel, Grahamstown, Monday 14th November 2011
Comments & responses

Mr P de Klerk	
Ms KM Crous	Neighbouring farmer
Mr O Crous	
Mr GL Dixon	Chair of the Coombes Agricultural Association
Mr GB Dixon	
Mr WL Nortje	
Mr MJ Erwee	
Mr MS Miller	
Ms P Mini	Grocotts Mail
Ms J Gon	
Mr R Cooper	
Mr Z Jessa	Infinite Plan8 (IP8)
Mr J Cope	Infinite Plan8 (IP8)
Mr A Oswald	Nordex
Mr H Newcombe	Coastal & Environmental Services, Ght (CES)
Mr W Rowlston	Coastal & Environmental Services, Ght

Comment: Ms P Mini
I've heard there is a wind farm planned for the Grahamstown industrial area: is this the one we're discussing.
Response: CES
No: the one we're discussing here is planned for a site about 30km east of Grahamstown, near the N@ towards Peddie and East London
Comment: Mr O Crous
There is a group of three turbines at the north side of the project area, and these will have a bigger visual impact than the others. How certain is it that these turbines will be constructed?
Response: IP8
All the turbine locations are preliminary at the moment, but these three sites are more difficult to access than the others. Although the modelling showed that the turbine positions make best use of the wind energy on the site, there are many factors that influence the siting of the turbines, including topography, contours, the distance between each turbine, as well as environmental and social considerations such as visual impacts..
Comment: Mr O Crous
Is it correct that the distance of a turbine from a property boundary should be 1.5 times the height to the hub?
Response: IP8
Guidelines have been developed only recently, and are region specific. Turbines cannot be on a property boundary, and 200m seems to be a reasonable distance.
Comment: Mr O Crous
How far is the nearest turbine from the nearest occupied dwelling?
Response: IP8
It is not possible to tell whether a property is occupied or not from maps, and this will have to be confirmed on site. A distance of 500m between a turbine and an occupied property is commonly adopted to reduce the visual impacts and the effects of noise and flicker.
Comment: Mr O Crous
The site seems to have been chosen from the developer's point of view. Surely there are better sites from a wind point of view.
Response: IP8
This is a fair point, but this site has many advantages, including good wind resources, relatively low wind turbulence, access to turbine sites, low density of habitation and proximity of a 132kV power line, There are other good sites closer to Grahamstown, but the density of structures and population is higher.
Comment: Mr O Crous
What does the data from the meteorological mast tell you so far?
Response: IP8

Only a few weeks' data have been collected thus far, but the average wind speed appears to be more than 8m/sec. We have to collect one year's data in order to submit our bid.
Comment: Mr O Crous
At my house the prevailing wind direction is south west.
Response: IP8
The meteorological mast has been set up to obtain more detail on the wind regime on the site, as the grid used in the modelling is quite coarse. Thus far insufficient wind data has been collected to determine the prevailing wind direction or to detect seasonal variations
Comment: Mr O Crous
There is a possibility that the N2 may be realigned in this area.
Response: CES
Thank you: we will investigate this with SANRAL
Comment:**Mr GL Dixon**
If the wind farm goes ahead the surrounding community must get used to its presence, and they will in time. However, some farmers will benefit directly from the wind farm, while others won't. How will the others be compensated, on properties where ecotourism or hunting lodges either operate or might in the future, for instance?
Response: IP8
One of the conditions attached to the bid for a wind farm is that 2% ownership of the project to belong to the community, but how this is to be achieved is not specified in detail. Job opportunities must also be available to local people. We will be talking to community representatives to determine how best to satisfy this condition, and also to find out where game and ecotourism lodges are situated in the site and the surrounding areas, and other operations that might be affected by the wind farm. We will be very happy if you, your association, and neighbouring property owners can provide us with information of this sort.
Comment: Mr GL Dixon
How will this 2% ownership work?
Response: IP8
As we mentioned previously, we will work out the details in discussion with all affected communities and individuals. We must also get inputs from our bidding partners, including the turbine suppliers and the construction contractor.
Comment: Mr O Crous
What does 2% mean? 2% of what, and when will this be clarified.
Response: IP8
We believe it's 2% of turnover, but this isn't very clear in the bid documentation. We will make it as clear as we are able when we liaise with the local communities, and we have a better idea of what form it should take.
Comment: Mr GL Dixon
Mr Krous owns a game lodge, and I don't understand why he hasn't said as much.
Response: Mr O Crous
The occupant of the lodge was unable to be here, and I don't want to speak on his behalf.
Comment: Mr O Crous
Will the turbines be lit in any way? The warning light on the cellphone tower is visible from my property, which is just west of the boundary of the site.
Response: IP8, Nordex, CES
Yes: each tower must display a red flashing warning light on the nacelle at night. Illumination is horizontal and upwards, and not downwards to minimise light pollution at ground level. The extent of visibility, during the day and the night, will be determined by the visual impact study that will be undertaken as part of the EIA phase of the environmental assessment.
Comment: Mr GL Dixon
I'm speaking on behalf of the Coombes Agricultural Association, and i will inform the members what has been discussed this evening. We have no problem with the financial benefits that the farmers on whose land the turbines will be sited, but others might be disadvantaged. We don't know what effect the windfarm will have on property values, and we don't know what effect it will have on visitors to farms that might go to game farming.
Response: CES
The socio-economic impacts of windfarms are very difficult to determine, because some people think they are attractive and indicate a commitment to renewable energy, while others think they are unattractive. Nevertheless, all comments on the proposed Infinite Plan8 will be communicated to the regulatory authority as completely and as accurately as possible.
Comment: Mr GL Dixon
So as to spread the benefits wider I suggest that consideration be given to moving turbines sited near to farm boundaries into the next farm. Will Eskom consider giving neighbouring farmers a discount on their electricity

accounts?
Response: IP8, CES
These are interesting proposal, and we will consider them, but it is doubtful if Eskom will agree to such a proposal.
Comment: Ms P Mini
The planned output from the windfarm is 80MW. But what does this mean?
Response: IP8, Nordex
In very rough terms 80MW is sufficient to provide power to about 6 000 middle-class homes.
Comment: Mr P de Klerk
Do the turbines pose a fire hazard?
Response: Nordex
The turbines are fitted with many safety features, including automatic control equipment and fire extinguishers, to safeguard against fires and other malfunctions. The risk of fire is very slight, and Nordex has never experienced a fire in any of its turbines.
Comment: Mr O Crous
Could you explain the bid process in more detail? Is it competitive?
Response: IP8
The bid process is competitive. It is adjudicated by the National Energy Regulator of South Africa (NERSA). The success of a bid depends, among other things, on the feed in tariff offered by the bidder – the unit price of electricity to be supplied into the national grid, but there are many other factors considered in reviewing bids. The ceiling tariff prescribed by NERSA is currently R 1.15 per kilowatt hour. We will try to make further information available to all interested persons on the subject.

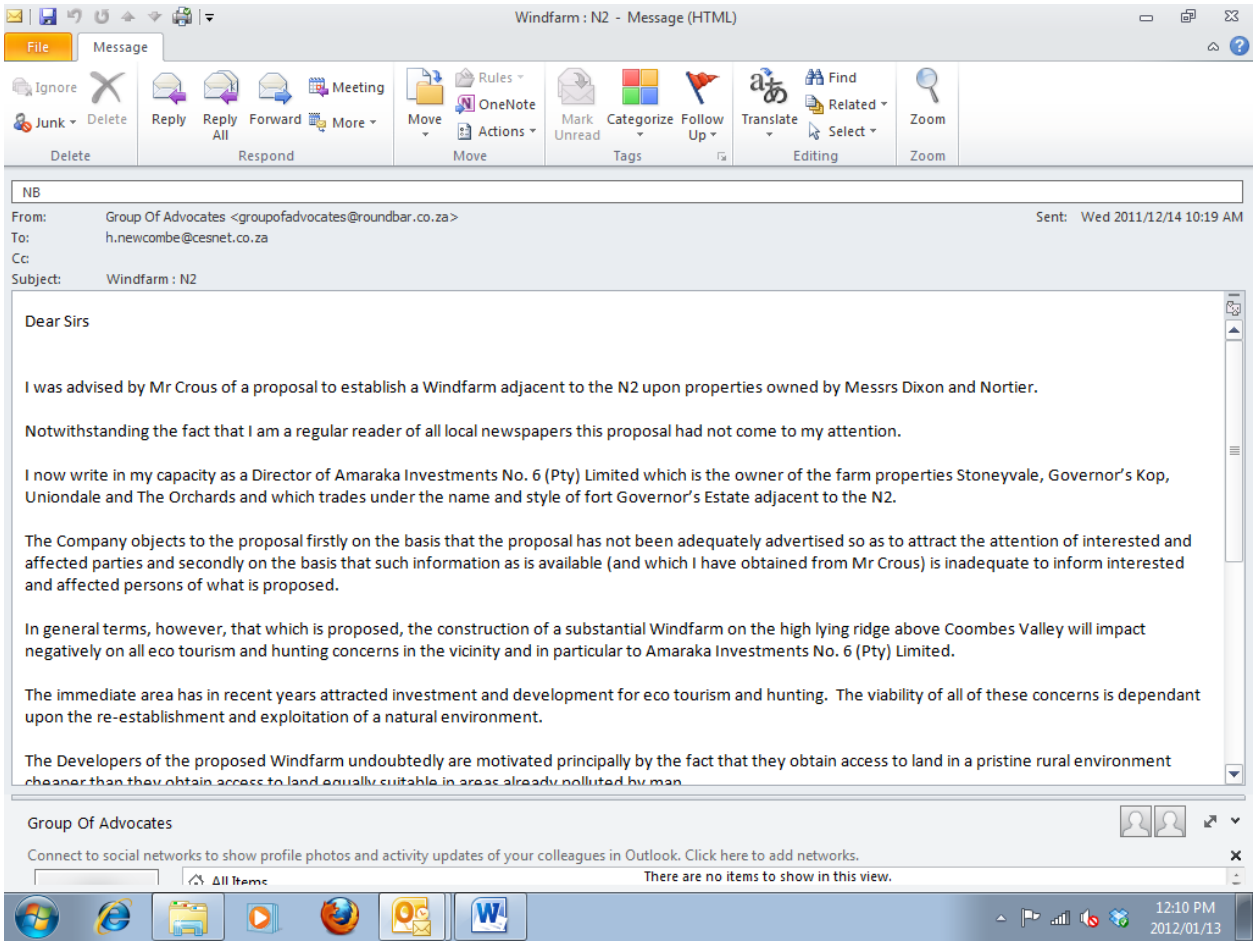
APPENDIX B-8: COMMENTS REPORT (ISSUES AND RESPONSE TRAIL) AS IT STANDS ON 12 JANUARY 2012 INCORPORATING COMMENTS SINCE THE START OF THE SCOPING PHASE AND FOLLOWING RELEASE OF THE DRAFT SCOPING REPORT –COPIES OF ALL COMMENTS RECEIVED FOLLOWING RELEASE OF THE DRAFT SCOPING REPORT HAVE ALSO BEEN INCLUDED IN THIS APPENDIX.

Raised By:	Event & Date	Issue, Concern, Comment Please see Appendix B-9 for a copy of these letters.	Response
Visual Issues			
O. Crous Neighbouring Landowner	12/12/2011 via email	1. Any lights on structures to shine up into the sky and not sideways or downwards 2. Painting of structures to blend in with sky and surrounding countryside, not plain white colour. 3. What is the distance from the nearest turbine to my homestead or boundary and how many would be seen from the homestead?	Noted. A visual specialist study will be undertaken during the EIR phase of the project.
Murray Crous Petra Schutrops Neighbouring Landowner of Bushmans Gorge Lodge and Settlers Safaris hunting outfit	14/12/2011 via email	1. The N2 between Grahamstown and Peddie is already a very dangerous stretch of road, this can be seen in the amount of accidents and fatalities, by erecting turbines visible from the N2 this will distract the drivers attention and cause even more accidents along this road. 2. I presume the turbines will have signal lights on top, this will be light pollution and an eyesore in the evenings as a big part of our advertising is to be away from man made things and to be out in the bush.	
Noise Issues			
O. Crous Neighbouring Landowner	12/12/2011 via email	1. I want to know what the noise level would be if the wind blows in the direction of my homestead.	Noted. A noise specialist study will be undertaken during the EIR phase of the project
Murray Crous Petra Schutrops Neighbouring Landowner of Bushmans Gorge Lodge and Settlers	14/12/2011 via email	1. Our lodge is only 200 meters from the boundary fence with Gillead and so the noise pollution of this project is also really bothering us, especially as the lodge is also serves as our home.	

Safaris hunting outfit			
Avifaunal Issues			
O. Crous Neighbouring Landowner	12/12/2011 via email	1. Has any studies been done on the affect or disruption of birds in particular protected birds of prey such as black eagles, crown eagles and martial eagles which breed around and on the properties effected by the project.	Avifaunal issues will be dealt with extensively during the EIR phase by an avifaunal specialist
Murray Crous Petra Schutrops Neighbouring Landowner of Bushmans Gorge Lodge and Settlers Safaris hunting outfit	14/12/2011 via email	1. Will these turbines affect the bird life and bats in our area? A lot of our clients are bird watching enthusiasts. Protected species such as Black Eagle and Crowned Eagle nest and rear young on Gillead, one of the proposed properties for this project.	
Impact on other Businesses			
O. Crous Neighbouring Landowner	12/12/2011 via email	1. Has any research been done on the long-term breeding patterns of wild game within a distance of one kilometre of a forest of wind turbines? We are breeders of rare and expensive species of game. 2. I feel strongly that it should not be just the landowners on whose property the turbines are going to be erected to gain financially from the project, but the surrounding landowners who have got to suffer the effects of the wind turbines. Spoiling landscape, noise, lights, loss of business from hunting lodge, decreased property value etc. 3. Regarding above point, I want to see the Coombs Agricultural Association being involved. This association being for the benefit of the farmers in this area as well as the farm workers and their families	These comments have been noted and incorporated in to the EIR. CES has motivated to the national Department of Environmental Affairs that an SEA be undertaken to better guide and manage wind farm EIA's in the country.

Murray Crous Petra Schutrops Neighbouring Landowner of Bushmans Gorge Lodge and Settlers Safaris hunting outfit	14/12/2011 via email	1. We breed expensive and rare animals such as Black Impala, Golden Wildebeest, Copper Blesbuck and we are worried that the disturbance of this project will affect there breeding behaviour and the game populations greatly 2. This plan as it is will only benefit the farmers that supply the land and the companies involved in erecting the turbines and all the other neighbours will have to suffer the negative environmental as well as financial consequences of this plan. 3. Our outfit caters for foreign hunters and non-hunters who wish to spend their holidays in a natural untouched environment. From our lodge the proposed wind turbines will be in view, which will put off many hunters and thus we will suffer financially.	
Dave De La Harpe Director of Amaraka Investments No. 6 (Pty) Limited	14/12/2011 via email	1. The visual pollution will be considerable and will in all probability make it more difficult if not impossible to sell eco tourism and safari operations on its property and will most certainly reduce the value of its considerable investment in land.	
Social Issues			
O. Crous Neighbouring Landowner	12/12/2011 via email	1. Regarding the 2% benefit to the community, I feel it should be benefiting the surrounding community who are affected by the project and not some distant urban community who are not affected by the project.	These comments have been noted and incorporated in to the EIR. CES has motivated to the national Department of Environmental Affairs that an SEA be undertaken to better guide and manage wind farm EIA's in the country.
General Issues			
O. Crous Neighbouring Landowner Mr Pumzo Mdleleni: Vodacom	12/12/2011 via email	1. The project must not negatively affect television, cell phone, Telkom landline or internet reception.	The turbines don't have any affect on cellular phone signal and reception, however there may be minimal interference with other electronic devices if turbines are placed too closely to the Vodacom Mast.

APPENDIX B-9: COMMENTS REPORT



Windfarm : N2 - Message (HTML)

File | Message

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Move | Rules | OneNote | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom

NB

From: Group Of Advocates <groupofadvocates@roundbar.co.za> Sent: Wed 2011/12/14 10:19 AM
To: h.newcombe@cesnet.co.za
Cc:
Subject: Windfarm : N2

Dear Sirs

I was advised by Mr Crous of a proposal to establish a Windfarm adjacent to the N2 upon properties owned by Messrs Dixon and Nortier.

Notwithstanding the fact that I am a regular reader of all local newspapers this proposal had not come to my attention.

I now write in my capacity as a Director of Amaraka Investments No. 6 (Pty) Limited which is the owner of the farm properties Stoneyvale, Governor's Kop, Uniondale and The Orchards and which trades under the name and style of fort Governor's Estate adjacent to the N2.

The Company objects to the proposal firstly on the basis that the proposal has not been adequately advertised so as to attract the attention of interested and affected parties and secondly on the basis that such information as is available (and which I have obtained from Mr Crous) is inadequate to inform interested and affected persons of what is proposed.

In general terms, however, that which is proposed, the construction of a substantial Windfarm on the high lying ridge above Coombes Valley will impact negatively on all eco tourism and hunting concerns in the vicinity and in particular to Amaraka Investments No. 6 (Pty) Limited.

The immediate area has in recent years attracted investment and development for eco tourism and hunting. The viability of all of these concerns is dependant upon the re-establishment and exploitation of a natural environment.

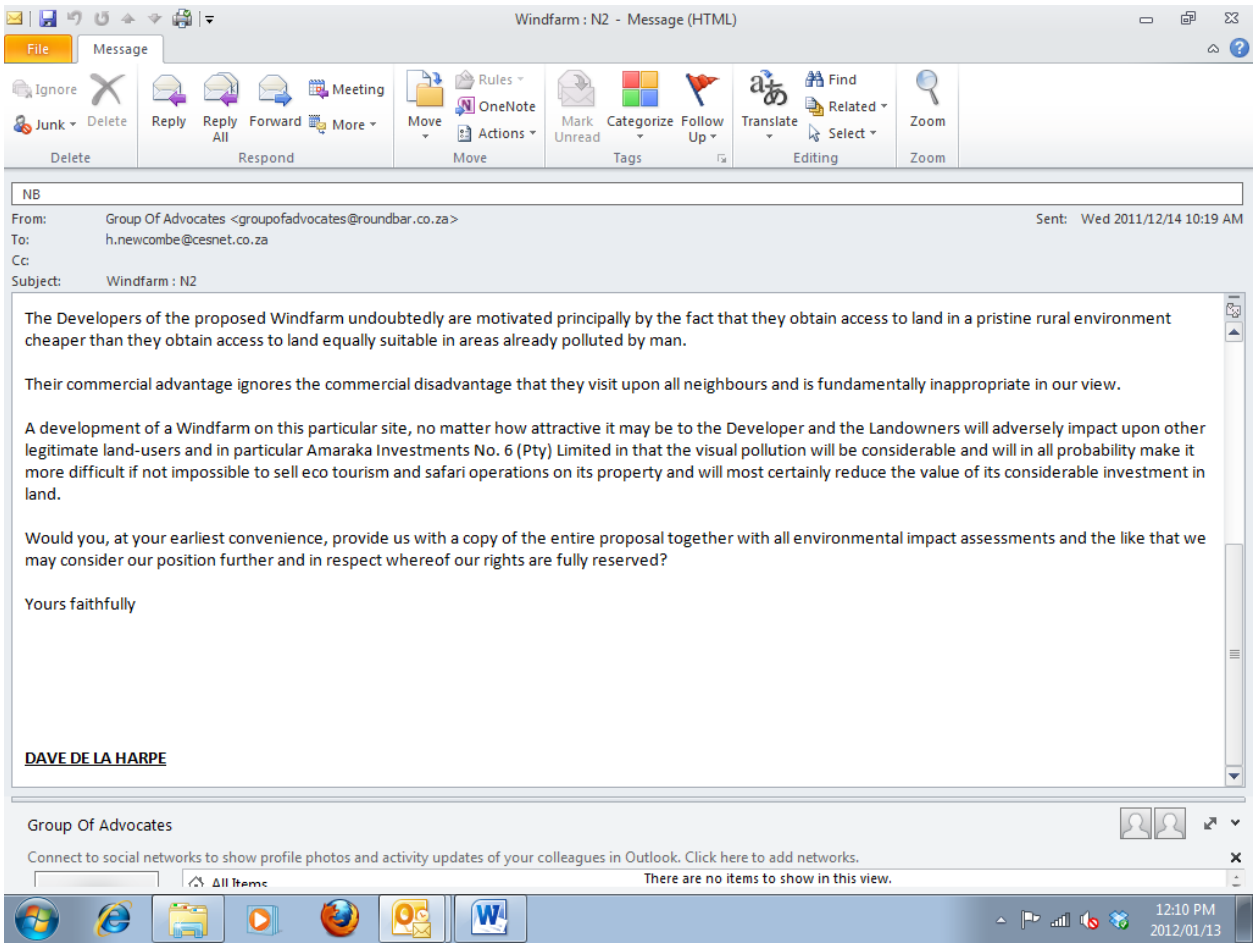
The Developers of the proposed Windfarm undoubtedly are motivated principally by the fact that they obtain access to land in a pristine rural environment cheaper than they obtain access to land equally suitable in areas already polluted by man

Group Of Advocates

Connect to social networks to show profile photos and activity updates of your colleagues in Outlook. Click here to add networks.

All Items — There are no items to show in this view.

12:10 PM 2012/01/13



Windfarm : N2 - Message (HTML)

File | Message

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Move | Rules | OneNote | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom

NB

From: Group Of Advocates <groupofadvocates@roundbar.co.za> Sent: Wed 2011/12/14 10:19 AM
To: h.newcombe@cesnet.co.za
Cc:
Subject: Windfarm : N2

The Developers of the proposed Windfarm undoubtedly are motivated principally by the fact that they obtain access to land in a pristine rural environment cheaper than they obtain access to land equally suitable in areas already polluted by man.

Their commercial advantage ignores the commercial disadvantage that they visit upon all neighbours and is fundamentally inappropriate in our view.

A development of a Windfarm on this particular site, no matter how attractive it may be to the Developer and the Landowners will adversely impact upon other legitimate land-users and in particular Amaraka Investments No. 6 (Pty) Limited in that the visual pollution will be considerable and will in all probability make it more difficult if not impossible to sell eco tourism and safari operations on its property and will most certainly reduce the value of its considerable investment in land.

Would you, at your earliest convenience, provide us with a copy of the entire proposal together with all environmental impact assessments and the like that we may consider our position further and in respect whereof our rights are fully reserved?

Yours faithfully

DAVE DE LA HARPE

Group Of Advocates

Connect to social networks to show profile photos and activity updates of your colleagues in Outlook. Click here to add networks.

All Items — There are no items to show in this view.

12:10 PM 2012/01/13

O. Crous
Honeykop Farm
Grahamstown
6140

Hylton Newcombe
CES
67 African Street, Grahamstown
6140

Fax 046 6228474
cell 0826609974
12/12/2011

Concerns Re: Plan 8 Wind Energy Project Ref 12/12/20/2523

As a neighbouring landowner (farm no. 361 and 362) of the above wind energy project, I wish to make my concerns known and taken note of.

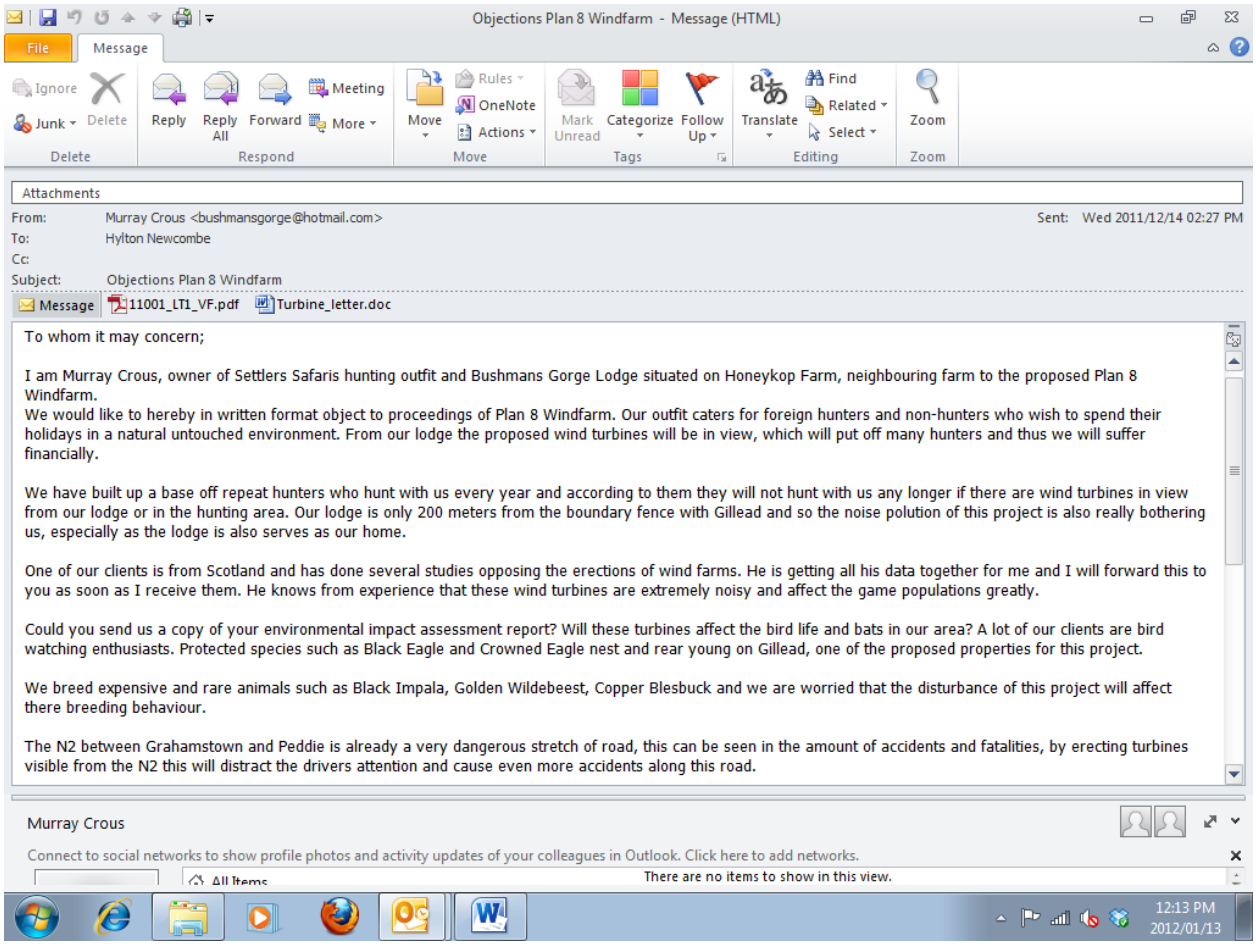
1. Any lights on structures to shine up into the sky and not sideways or downwards
2. Painting of structures to blend in with sky and surrounding countryside, not plain white colour.
3. I want to know what the noise level would be if the wind blows in the direction of my homestead.
4. What is the distance from the nearest turbine to my homestead or boundary and how many would be seen from the homestead?
5. The project must not negatively affect television, cell phone, Telkom landline or internet reception.
6. Has any research been done on the long-term breeding patterns of wild game within a distance of one kilometre of a forest of wind turbines? We are breeders of rare and expensive species of game.
7. Has any studies been done on the affect or disruption of birds in particular protected birds of prey such as black eagles, crown eagles and martial eagles which breed around and on the properties effected by the project.
8. I feel strongly that it should not be just the landowners on whose property the turbines are going to be erected to gain financially from the project, but the surrounding landowners who have got to suffer the effects of the wind turbines. Spoiling landscape, noise, lights, loss of business from hunting lodge, decreased property value etc.

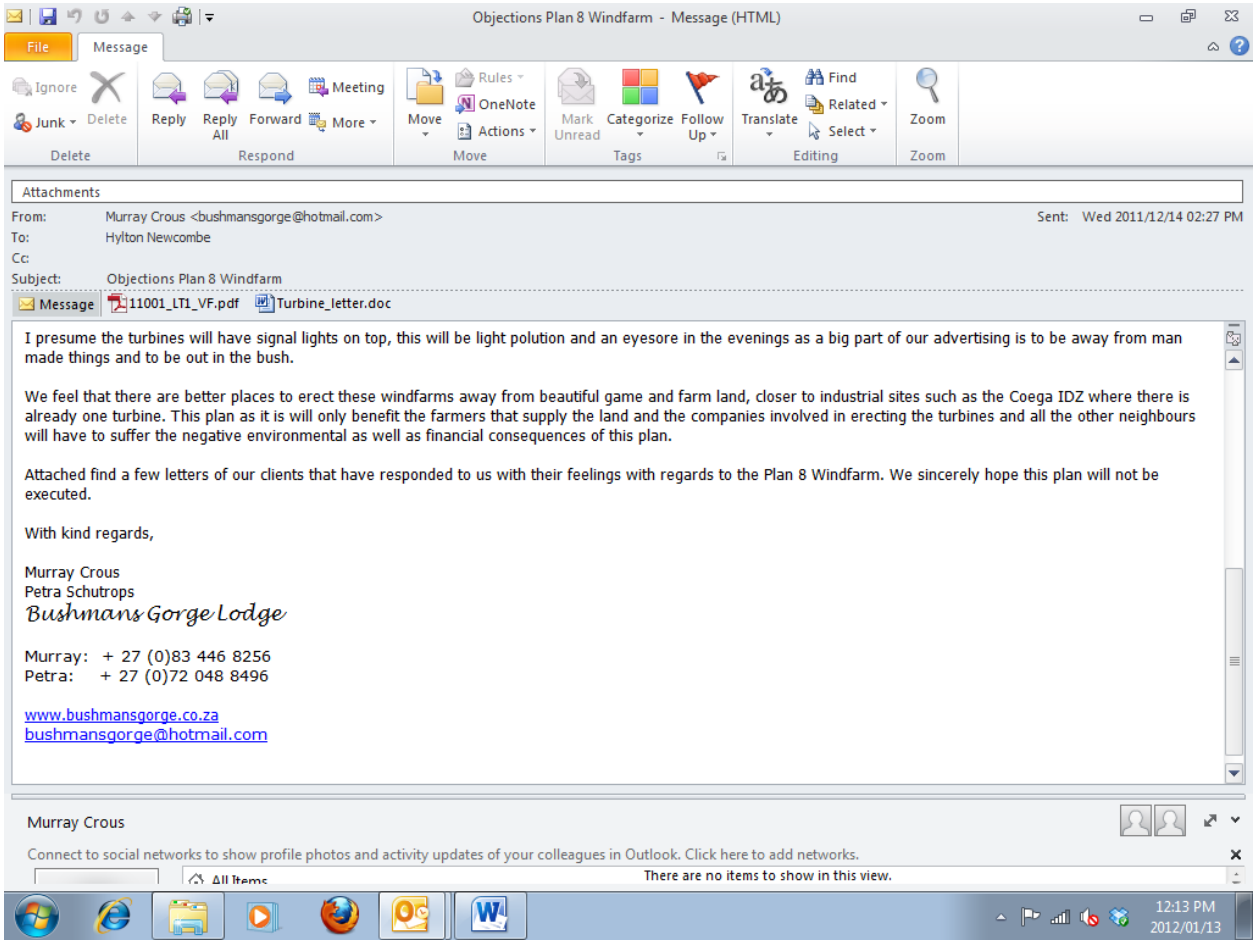
9. Regarding the 2% benefit to the community, I feel it should be benefiting the surrounding community who are affected by the project and not some distant urban community who are not affected by the project.
10. Regarding above point 8, I want to see the Coombs Agricultural Association being involved. This association being for the benefit of the farmers in this area as well as the farm workers and their families.

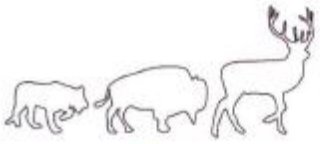
I wish to be kept informed of meetings and discussions where my concerns would be addressed and discussed.

Yours Faithfully

O.Crous




Objections Plan 8 Windfarm - Message (HTML)
File
Message
Ignore
Junk
Delete
Reply
Reply All
Forward
Meeting
More
Move
Rules
OneNote
Actions
Mark Unread
Categorize
Follow Up
Translate
Find
Related
Select
Zoom
Delete
Respond
Move
Tags
Editing
Zoom
Attachments
From: Murray Crous <bushmansgorge@hotmail.com>
Sent: Wed 2011/12/14 02:27 PM
To: Hylton Newcombe
Cc:
Subject: Objections Plan 8 Windfarm
Message
11001_LT1_VF.pdf
Turbine_letter.doc
I presume the turbines will have signal lights on top, this will be light polution and an eyesore in the evenings as a big part of our advertising is to be away from man made things and to be out in the bush.
We feel that there are better places to erect these windfarms away from beautiful game and farm land, closer to industrial sites such as the Coega IDZ where there is already one turbine. This plan as it is will only benefit the farmers that supply the land and the companies involved in erecting the turbines and all the other neighbours will have to suffer the negative environmental as well as financial consequences of this plan.
Attached find a few letters of our clients that have responded to us with their feelings with regards to the Plan 8 Windfarm. We sincerely hope this plan will not be executed.
With kind regards,
Murray Crous
Petra Schutrops
Bushmans Gorge Lodge
Murray: + 27 (0)83 446 8256
Petra: + 27 (0)72 048 8496
www.bushmansgorge.co.za
bushmansgorge@hotmail.com
Murray Crous
Connect to social networks to show profile photos and activity updates of your colleagues in Outlook. Click here to add networks.
All Items
There are no items to show in this view.
12:13 PM
2012/01/13



Preparace Pekař spol. s r. o.
Taxidermy
Průmyslová 1895/1, 568 02 Svitavy
Czech Republic
IČ: 275 52 365

Murray Crous

P. O. Box 362
Grahamstown
6140

South Africa

Your letter	*Our sign*	*Person*	*Svitavy, date*
	11001_LT1_VF	V. Fila	12. 12. 2011

Case: Consideration

Me Vladislav Fila and my clients where hunting with Murry Crous at "Honeykop lodge" and "Bushmans Gorge Lodge" the last years. We are in hunting business "Settlers Safaris".

We are planning to hunt there also in future, but when in the close area would be wind turbines we would not come! Me and my clients would like to visit virgin nature of Africa and no view with wind turbines.

| Bc. Vladislav Fila
|
| Preparace Pekař spol. s r. o.
| Průmyslová 1895/1, 568 02 Svitavy, Czech Republic
| v.fila@seznam.cz
| GSM: +420 739 633 688

Preparace Pekař spol. s r. o.
Průmyslová 1895/1, 568 02 Svitavy
IČO: 275 52 365

Adrian Sailor
14 Lawnsfield Walk
Parkside
Stafford
ST16 1TS
UK

Dear Murray

I am saddened to hear of this potential wind turbine issue. After hunting with Settlers Safaris I know a problem like this will obviously cause an issue with your business at Bushmans Gorge. This will affect the animal numbers and quality and hence my clients may think twice about rebooking. This has consequences for your business and also mine.

I am certainly against this proposal. There are plenty of other locations these can be housed, certainly not anywhere near a game reserve such as yours.

Please let me know how things progress.

Yours faithfully

Adrian

APPENDIX B-10: REGISTER OF INTERESTED AND AFFECTED PARTIES

NAME	OCCUPATION/AFFILIATION	CONTACT				PHYSICAL/POSTAL ADDRESS
		Telephone	Mobile	Fax	Email	
Immediate Landowners						
Gavin Dixon	Farmer. Gilead Farm	466227758	847675097	866975204	gbd@geenet.co.za	POBox 6292 Grahamstown, Market Square 6141 (owns farm but does not reside there)
Morne and Marda Erwee	Tower Hill Farm		0823007730 (Morne)		jmichau@zazu.co.za	Fairview farm, Koondesvalley, Grahamstown
Wayne Nortier	Peynes Kraal Farm	466 361 810	823193207 (Wayne) 0795274335 (Felicity)		waynenortier@gmail.com felicity@deklerk-devilliers.co.za	POBOX 19 Grahamstown 6139 / Hourkers farm Albany District Grahamstown
Surrounding Landowners						
Glyn Dixon	Chairman - Coomb Farmers Association	466 227 776	727 641 303	866 204 765	claypits@geenet.co.za	
Orgie Crous	Farmer - Honeykop No361	466228474	826609974	466228474	ecbackloads@yahoo.com	PO BOX 362, Grahamstown, 6140
Jeremy Allan			827846805		jjrallan@yahoo.com	17 Milner str Grahamstown
Gilbert Coetzee	Coombesvale		828085961		gmd@geenet.co.za	POBOX 2204 Grahamstown 6140
James Williamson	Glenvoid		824412055		james@geenet.co.za	45 Kingsview Estate Miles rd Grahamstown
Andre Coetzee			826592710		no email address	POBOX 267 GHT
Fred Pittaway	Valleyview and Kaasvlei (sp.?)	466223663	834792762		valleyview@xsinet.co.za	POBOX 2225 GHT
Gcobani Dyantyi	Outspan Farm		826378632		amangwevu@yahoo.com	262B Grahamstown
Government						
Mr Briant Noncembu	DEDEA (Amathole)				Briant.Noncembu@deaet.ecape.gov.za	Private Bag X5029 Mthatha 5099
Carin Swart	DEDEA				Carin.Swart@deaet.ecape.gov.za	
Dan Malgas	DAFF Forestry				MalgasM@daff.gov.za	
S. Gwen	DAFF Forestry	(043) 604 5301			gwendolines@daff.gov.za	
Anneliza Collett	DAFF Agri				annelizac@nda.agric.za	
M Mathekgana	Dept of Energy	(012) 444-4261			mokgadi.mathekgana@energy.gov.za	
Ms Nyiko Nkosi	DEA				nnkosi@environment.gov.za	Private Bag X447, Pretoria, 0001

Municipality						
Ntonek Nocweka	Makana Municipality		072 8195472		ntontela@makana.gov.za	
Anele Kwayimani	Makana Municipality	046 622 9186	083 6955 406	046 603 6062	anele.kwayimani@webmail.co.za	
Xhanli Bokue	Makana Municipality		083 335 4843		bokwe@makana.gov.za	
Casa Yonela	Makana Municipality		072 13302 92		casayo@webmail.co.za	
Mzomhle Radu					radu@makana.gov.za	
Key Stakeholders						
Nanna Gouws	SANRAL				GouwsJ@nra.co.za	
Mariagrazia Galamberti	SAHRA				mgalimberti@sahra.org.za	
Xolani Wana	ESKOM				Xolani.Wana@eskom.co.za	
Lizelle Stroh	SACAA				strohl@caa.co.za	
Irene de Moor	WESSA				irenedemoor@imaginet.co.za	
Jenny Gon	WESSA				j-gon@intekom.co.za	PO Box 73, Grahamstown, 6140
Registered IAPs						
P. de Klerk			828093425	466 223 118		PO Box 160, Grahamstown, 6140
M.S Miller			825921664			
P. Mini		466 227 222			p.mini@grocotts.co.za	40 High St, Grahamstown
Rob Cooper		466 225 753	827471888		robc@terrapower.co.za	PO Box 73, Grahamstown